

1/2 015 UNCLASSIFIED PROCESSING DATE--11SEP70
TITLE--SPECTROSCOPIC STUDY OF THE LUMINESCENT ASSOCIATES OF RHODAMINE DYES
-U-
AUTHOR--LEYSHIN, L.V., NIZAMOV, N.
COUNTRY OF INFO--USSR
SOURCE--ZH. PRIKL. SPEKTROSK. 1970, 12(1), 102-7
DATE PUBLISHED-----70
SUBJECT AREAS--MATERIALS, PHYSICS
TOPIC TAGS--DYE, LUMINESCENCE, FLUORESCENCE, ORGANIC SOLVENT
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRA--1989/0236 STEP NO--UR/0368/70/012/001/0102/0107
CIRC ACCESSION NO--AP0106892
UNCLASSIFIED

2/2 015

UNCLASSIFIED

PROCESSING DATE--11SEP70

CIRC ACCESSION NO--AP0106892

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE FLUORESCENCE OF RHODAMINE DYES (G, 6G, 3B), EXTOL FROM H SUB2 D INTO CCL SUB4 AT ROOM TEMP., WAS STUDIED. THE DYES FORM IN CCL SUB4 FLUORESCENT ASSOCS. WITH THE FLUORESCENCE EMISSION MAX. SHIFTED TO 525 NM. A REACTION MECHANISM IS SUGGESTED FOR THE FLUORESCENCE IN CCL SUB4. ADDN. OF A POLAR SOLVENT, SUCH AS CHCL SUB3, PROH, OR ME SUB2 NCHO, DECREASES THE 525 NM MAX. AND INCREASES THE MAX. AT 560 NM. THIS EFFECT MUST BE CONSIDERED WHEN DEVELOPING ANAL. EXTN. METHODS USING RHODAMINE DYES AS THE FLUORESCENT REAGENT.

UNCLASSIFIED

USSR

UDC 629.78.018.4:620.1

KAYBYSHEV, O. A., NIZAMOV, R. G., GAZIYEV, A. A.

"Experimental Setup and Procedure for Measuring the Dynamic Properties of Metals"

Tr. Ufim. aviats. in-ta (Works of the Ufa Aviation Institute), 1972, vyp. 29, pp 170-180 (from RZh-Raketostroyeniya, otdel'nyy vypusk, No 12, Dec 72, Abstract No 12.41.247)

Translation: The experimental device permitting investigation of the effect of high-speed deformation on the structure and properties of metals in the deformation rate range of 10^2 seconds to 10^4 seconds is described. The dynamic properties were measured during the process of high-speed deformation considering wave processes by two independent methods: strain gaging and streak photography. The practical inertialess measuring and recording apparatus were used: electric resistance strain gages, a pulsed cathode oscillograph and superhigh speed SFR-2M streak camera. There are 4 illustrations and an 8-entry bibliography.

1/1

1/2 022 UNCLASSIFIED PROCESSING DATE--16OCT70
TITLE--MECHANISM OF URETHANE FORMATION THROUGH A COMPLEX OF CATALYST AND
REAGENTS -U-
AUTHOR-(02)-LIPATOVA, T.E., NIZELSKIY, YU.N.
COUNTRY OF INFO--USSR
SOURCE--DOKL. AKAD. NAUK SSSR 1970, 190(4), 880-3
DATE PUBLISHED-----70
SUBJECT AREAS--CHEMISTRY, MATERIALS
TOPIC TAGS--UV SPECTRUM, POLYURETHANE RESIN, COMPLEX COMPOUND, COPPER
COMPLEX, METHANOL, CARBAMATE, CHEMICAL REACTION MECHANISM, KINETIC
EQUATION, CALCULATION
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRA--1992/2010 STEP NO--UR/0020/70/190/004/0880/0883
CIRC ACCESSION NO--AT0112965

UNCLASSIFIED

2/2 022

UNCLASSIFIED

PROCESSING DATE--16OCT70

CIRC ACCESSION NO--AT0112965

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE EFFECTS OF CU BIS(ET
ACETOACETATE) (I) ON THE REACTION OF PHNCO WITH MEOH IN CCL SUB4 WERE
STUDIED BY DILATOMETRY AND SPECTROPHOTOMETRY. UV SPECTRA AT 270-310 M
MU SUGGESTED THAT A TERNARY PHNCO-MEOH-I SYSTEM MAY HAVE FORMED A
COMPLEX IN WHICH PHNCO WAS COORDINATED TO CU PRIME2POSITIVE AND MEOH TO
THE CHELATE RING. A KINETIC EQUATION, WHICH ACCOUNTED FOR THE FORMATION
OF THE TERNARY COMPLEX, WAS DERIVED. THE REACTION CONST. OF URETHANE
FORMATION WAS CALCD. FROM THE EQUATION. AN ALTERNATIVE REACTION
MECHANISM, INVOLVING A BINARY COMPLEX (WHENEVER AN EXCESS OF ONE OF THE
REAGENTS WAS PRESENT), WAS ALSO PROPOSED. FACILITY: INST. KHIM,
VYSOKOMUL, SOEDIN., KIEV, USSR.

UNCLASSIFIED

USSR

ALEKSEYEVSKIY, N. Ye., NIZHANKOVSKIY, V. I., Institute of Physical Problems, USSR Academy of Sciences

"Influence of Magnetic Breakdown on the Hall Effect in Beryllium"

Moscow, Zhurnal Eksperimental'noy i Teoreticheskoy Fiziki, Vol 65, No 3(9), Sep 73, pp 1076-1084

Abstract: Theoretical studies of magnetic breakdown are based on stochastic or coherent principles. In the stochastic approximation electron transitions from one classical orbit to another are considered independent. The coherent approximation accounts for phase relations in the wave functions of electrons multiply scattered by regions of the magnetic breakdown. The stochastic model is a satisfactory representation when describing the monotonic part of the resistance tensor, but certain peculiarities in the behavior of the oscillating part make it necessary to resort to the coherent model. In this paper the authors investigate the influence of magnetic breakdown on the nondiagonal element (ρ_{yx}) of the resistance tensor of beryllium. The experimental method used in the work is based on recording a signal proportional to ρ_{yx} as a function of ρ_{xx} (the diagonal

1/2

USSR

ALEKSEYEVSKIY, N. Ye., NIZHANKOVSKIY, V. I., Zhurnal Eksperimental'noy i Teoreticheskoy Fiziki, Vol 65, No 3(9), Sep 73, pp 1076-1084

element). Analysis of the Hall constant as a function of the magnetic field showed that the breakdown field is approximately 110 kOe (about $8.75 \cdot 10^4$ amp/cm). Giant oscillations of the field-wise symmetric component ρ_{yx} are observed. The coherent model of breakdown gives an explanation of a change of phase shift between oscillations of ρ_{yx} and ρ_{xx} which is observed when the hexagonal axis of the specimen is not parallel to the magnetic field. The authors thank A. A. Slutsnin and M. I. Kalganov for discussing the results.

2/2

- 24 -

USSR

UDC: 621.391.14

BOROVSKIY, V. P., VAS'KOVSKIY, I. I., NIZHEGOL'SKIY, B. A., PARTALA, O. N., Kiev
Polytechnical Institute

"A Multiphase Amplitude-Modulated Very Low Frequency Voltage Oscillator"

Moscow, Pribery i Tekhnika Eksperimenta, No 2, Mar/Apr 70, pp 139-140

Abstract: The authors describe a multiphase generator of periodic signals of arbitrary form approximated by a step function. Provision is made for amplitude modulation of the output signal. A schematic diagram of the oscillator is given, as well as data on the nonlinearity of the modulation characteristics and the coefficient of nonlinear distortions for the case of a sinusoidal signal. The oscillator may be used for power supply to a three-phase synchronous motor as well as in other applications.

1/1

USSR

UDC 669.15'26'74'295:620.193.17

NIZHEL'SKIY, P. YE., and SKOROKHOD, T. S., Kurgan Machine Building Institute

"Effect of Titanium on the Properties of Heat-Resistant Cr-Mn Steel"

Moscow, Izvestiya Vysshikh Uchebnykh Zavedeniy--Chernaya Metallurgiya, No 6, June 73, pp 104-105

Abstract: The effect of titanium on the scaling resistance, structure, and mechanical properties of an austenitic steel containing (in %): 0.4 C, 16 Cr, 13 Mn and 1.5 Si was investigated. It was established that titanium content of 0 to 1.5% increases the scaling resistance of the steel, lowers austenite stability, increases hardness, and diminishes impact strength. Titanium, being a ferrite-forming element, promotes the gamma-alpha transformation. 2 figures, 3 bibliographic references.

1/1

- 26 -

1/2 017 UNCLASSIFIED PROCESSING DATE--09OCT70
TITLE--SOLUBILITY OF NITROGEN IN MOLTEN ALLOYS OF THE
IRON, CHROMIUM, MANGANESE, SILICON SYSTEM -U-
AUTHOR-(02)-NIZHEL'SKIY, P.YE., RYSKINA, S.G.
COUNTRY OF INFO--USSR N
SOURCE--IZV. VYSSH. UCHEB. ZAVED., CHERN. MET. 1970, 13(1), 56-60
DATE PUBLISHED-----70
SUBJECT AREAS--MATERIALS
TOPIC TAGS--IRON ALLOY, MANGANESE ALLOY, SILICON ALLOY, CHROMIUM STEEL,
NITROGEN, SOLUBILITY, ENTHALPY
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRA--1981/0599 STEP NO--UR/0148/70/013/001/0056/0060
CIRC ACCESSION NO--AT0050606

UNCLASSIFIED

2/2 017

UNCLASSIFIED

PROCESSING DATE--09OCT70

CIRC ACCESSION NO--AT0050606

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. A STEEL CONTG. CR 20 AND MN 10PERCENT WAS TREATED WITH SI 0-6PERCENT, AND THE EFFECTS OF PRESSURE, TEMP., AND COMPN. ON THE SOLY. OF N WERE DETD. THE SOLY. OF N WAS LINEAR TO RHO SUBN PRIMEONE HALF. INCREASED SI WAS ACCOMPANIED BY A REDN. IN N CONTENT FOR A GIVEN PRESSURE; N WAS MORE SOL. IN THE ALLOY PLUS 6PERCENT SI THAN IN PURE IRON PLUS 6PERCENT SI. THE MEASUREMENT TEMP. WAS 1600-2000DEGREES AND THE PRESSURE RANGES WAS 400-745 TORR. THE ENTHALPY OF DISSOLN. IN THE ABSENCE OF SI WAS MINUS 17,300 CAL-MOLE, FALLING CONTINUOUSLY TO MINUS 10,350 IN THE PRESENCE OF 6PERCENT SI.

UNCLASSIFIED

USSR

UDC: 621.317.725(088.8)

SKRIPNIK, Yu. A., NIZHNSKIY, A. D., TSAREVA, N. M., Institute of Electrodynamics, Academy of Sciences of the UkrSSR

"A Selective Microvoltmeter With Fixed Passband"

USSR Author's Certificate No 259264, filed 7 Jun 68, published 23 Apr 70 (from RZh-Radiotekhnika, No 11, Nov 70, Abstract No 11A276 P)

Translation: In conventional circuits of selective microvoltmeters, the voltmeter readings are considerably dependent on the frequency of the input signal, temperature and the warm-up time of the instrument, which leads to appreciable measurement errors. The proposed device differs from existing instruments in the fact that the heterodyne inputs of the balance mixers of the amplification and conversion channel are interconnected and also connected to the heterodyne input of the balance mixer in the comparison channel; the output of the DC comparison channel is connected to the amplification control circuit of the difference frequency amplifier in the amplification and conversion channel. This type of connection prevents measurement error due to variations in temperature and in the warm-up time of the instrument. Resumé.

1/1

- 114 -

USSR

UDC 621.317.332.6

KUSTOVSKAYA, V. N., NIZHENSKIY, A. D., SKRIPNIK, YU. A., TSAREVA, N. M.

"Procedure for Measuring the Frequency Errors of Voltage Dividers in a Broad Frequency Range"

Moscow, Otkrytiya, Izobreteniya, Promyshlennyye Ohratzsy, Tovarnyye Znaki, No 17, 12 May 70, Pp 54, Patent No 270879, Filed 6 Nov 67

Translation: This Author's Certificate introduces a procedure for measuring the frequency errors of voltage dividers in a broad frequency range based on measuring the difference of the division coefficients of the voltage divider on two frequencies by comparing two voltages. In order to improve accuracy, voltages of the first and second frequency with equal amplitude are fed to the input of the investigated divider in turn with low commutation frequency. With a division coefficient equal to one, the output voltages of the investigated divider are rectified and amplified, the commutation frequency voltage is separated (synchronously detected) and measured; the second frequency voltage amplitude is varied to disappearance of the commutation frequency voltage, and with the division coefficient of the investigated divider, the separated commutation frequency voltage is measured the amplitude of which is proportional to the frequency error of the divider.

1/1

- 145 -

M0047099-

NIZHENSKIY A.D. UR 0482

Soviet Inventions Illustrated, Section II Electrical, Derwent,

243720 ELECTRONIC MULTIRANGE EFFECTIVE VALUES
MILLIOVOLT-METER. Input potential U_1 through
probe (1) and range selector (2) goes to wide band
amplifier (3) whose amplification factor is
determined by the number of connected cascades and
the potential on the output of adjustable power
source (4). In the effect of output potential U_2
a current passes through the heater of thermal
converter (5) and to low-impedance resistor (6) in
the heater circuit causing lowering of potential U_3 .
The heater of thermal converter is protected from
overloading by Zener diodes in antiparallel
connection.

Input of amplifier potential U_1 and potential
 U_3 , of equal value, from resistor (6) go to inputs
of automatic commutator (8). Its commutations are
effected by mains supply (50 Hz) through frequency
divider (9), and from it are fed alternatively the
potentials U_1 and U_3 which are being compared by
amplitude detector (10). When these are unequal,

19790589

AA0047099

on the output potential of commutator (8) appears amplitude modulation of commutation frequency which is sensed by detector (10) and in effect low-frequency potential is generated whose amplitude is proportional to the difference between amplitudes of potentials being compared.

The low-frequency potential is amplified by (11), rectified by phase-sensitive rectifier (12), and acts on the control circuit of adjustable power feed (4), and consequently the amplification factor of amplifier (3) is changed.

Effective value of current is passing through heater and thus the effective value of input potential is measured by d.c. indicator (13) connected to output of thermal converter (5).

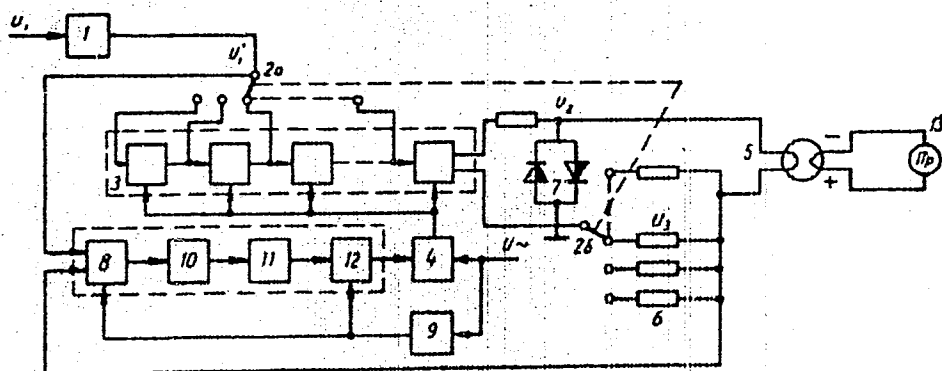
12.10.67 as 1190007/18-10.A.D.NIZHENSKII & YU.A. SKRIPNIK. ELECTRODYNAMICS INST. of the ACADEMY OF SCIENCES UKRAINIAN SSR. (3.10.69.) Bul 17/14.5.69. Class 21e. Int.Cl.G 01 r.

AUTHORS: Nizhenskiy, A. D.; Skripnik, Yu. A.
Institut Elektrodinamiki AN Ukrainskoy SSR

213

19790590

AA0047099



3/3

19790591

2

1/2 012 UNCLASSIFIED PROCESSING DATE--09OCT70
TITLE--SCIENTIFIC AND TECHNICAL CONFERENCE ON HYDRAULIC DRIVES AND
HYDRAULIC AUTOMATION -U-
AUTHOR--NIZHEVENKO, M.D.

COUNTRY OF INFO--USSR

SOURCE--MUSCOW, VESTNIK MASHINOSTROYENIYA, NO 3, 1970, P 84

DATE PUBLISHED--70

SUBJECT AREAS--MECH., IND., CIVIL AND MARINE ENGR, BEHAVIORAL AND SOCIAL
SCIENCES

TOPIC TAGS--HYDRAULIC EQUIPMENT, AUTOMATION, HYDRAULIC DEVICE, CONFERENCE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRA--1993/0895

STEP NO--UR/0122/70/000/003/0084/0084

CIRC ACCESSION NO--AP0113735

UNCLASSIFIED

UNCLASSIFIED

PROCESSING DATE--09OCT70

2/2 012

CIRC ACCESSION NO--AP0113735

ABSTRACT/EXTRACT--(U) GP-O- ABSTRACT. IN OCTOBER, 1968, THERE TOOK PLACE IN LENINGRAD A CONFERENCE ON HYDRAULIC DRIVES AND HYDRAULIC AUTOMATION, ORGANIZED BY THE OBLAST COUNCIL OF SCIENTIFIC AND TECHNICAL SOCIETIES, THE HOUSE OF SCIENTIFIC AND TECHNICAL PROPAGANDA, AND THE LENINGRAD MECHANICAL INSTITUTE. A TOTAL OF 49 REPORTS AND COMMUNICATIONS WERE DELIVERED ON PROBLEMS IN THE FIELDS OF RESEARCH ON, AND DEVELOPMENT OF VARIOUS HYDRAULIC DRIVE AND HYDRAULIC AUTOMATION DEVICES. NOTE WAS TAKEN BY THE CONFERENCE THAT PRINCIPAL ATTENTION MUST BE DEVOTED TO INCREASING THE RELIABILITY AND LONGEVITY OF HYDRAULIC MACHINES AND DEVICES, THE DEVELOPMENT AND INTRODUCTION OF ENGINEERING METHODS OF ASSESSING THE RELIABILITY OF HYDRAULIC DRIVE COMPONENTS, IMPROVEMENT OF ENGINEERING METHODS OF ANALYSIS AND SYNTHESIS OF ELECTROHYDRAULIC AND HYDRAULIC SERVO DRIVES AND DEVICES.

UNCLASSIFIED

Acc. Nr.

ATO101944

Abstracting Service:
CHEMICAL ABST.

6-20

Ref. Code

U R 0 4 4 2

111994h Thermomechanical and electrical properties of poly-
(butyl methacrylate) polymer homologs. Nizhnik, V. V.; So-
lomko, V. P.; Zueva, R. A.; Nizhnik, A. S.; Pochinov, V. Ya.
(Kiev. Derzh. Univ., Kiev, USSR). *Dopov. Akad. Nauk Ukr.*
RSR, Ser. B 1970, 32(1), 67-70 (Ukraine). Thermomech. and ther-
moelec. properties of the title polymer were dependent upon the
mol. wt. of the polymer. Considerable changes were observed,
esp. for the elec. vol. resistance, during the transition states of the
polymer. O. Elsner

11

REEL/FRAME
19851900

CB7

Acc. Nr:

AP0102300

Abstracting Service:

CHEMICAL ABST. 6/70

Ref. Code:

UR 0441

111987h Spatial structure formation and thermomechanical characteristics of polymer homologs. Nizhnik, A. S.; Maksimova, Ch. A.; Uskov, I. A.; Pochinok, V. Ya.; Borodkina, M. S. (Kiev. Derzh. Univ. Kiev, USSR). *Dopov. Akad. Nauk Ukr. RSR, Ser. A* 1970, 32(1), 54-6 (Ukrain). Thermomech. and rheol. properties of typical amorphous polymer homologs of Bu methacrylate were investigated. A forced flow point (a conditional characteristic of the polymer) and a true flow point (a phys. const. of the polymer) were distinguished. O. Elsner

CB

7

REEL/FRAME

19860250

USSR

UDC 533.9.08

LONGINOV, A.V., LITVINOV, A.P., KITEYEVSKIY, L.KH., NIZHNIK, G.YA., FROLOV, V.A.

"System For Preliminary Ionization Of Gas In Closed Magnetic Traps"

Vestn. Khar'kov. politekhn. in-ta (Bulletin Of Kharkov Polytechnical Institute), 1970, No 50(98), pp 76-79 (from RZh--Elektronika i yeye primeneniye, No 1, January 1971, Abstract No 1A238)

Translation: A system is described for preliminary ionization of gas in closed magnetic traps. The system includes a high-frequency pulse generator, a modulator, and a number of electron devices for control and monitoring. A special discharger for obtaining a short trailing edge is introduced into the generator. The following are the basic parameters of the system: power in a pulse, up to 500 kw; operating frequency, 100 kHz; pulse duration, to 5 microsec. 4 ill. 4 ref. Summary.

1/1

USSR

UDC 533.9.08

LONGINOV, A. V., NIZHNIK, G. Ya.

"New Types of Resonance Systems for High-Frequency Heating of Plasma"

Vestn. Khar'kov. politekhn. in-ta (Bulletin of the Khar'kov Polytechnical Institute), 1970, No 50(98), pp 105-110 (from RZh--Elektronika i yeye primeneniye, No 1, January 1971, Abstract No 1A235)

Translation: New types of resonance systems for excitation of ion-cyclotron or magneto-sonic waves in plasma are described. The results are presented of investigations of a mock-up of a power resonance system for the "Uragan" unit. 5 ill. 5 ref. Summary.

1/1

- 42 -

Steels

UDC 669.01:539.4.015

USSR

CHERNYAK, N. I., NIZHNIK, S. B., and OSTROVSKAYA, V. P., Institute of Mechanics, Academy of Sciences Ukrainian SSR, Kiev

"Change in the Structure and Mechanical Properties of Stainless Martensite-Aged Steel During Plastic Deformation"

Kiev, Fiziko-Khimicheskaya Mekhanika Materialov, Vol 6, No 6, 1970, pp 28-32

Abstract: The phenomenon and several structural causes of hardening of EP-288 and EP-410 stainless Martensite-aged steels were studied with a pre-determined combination of preliminary deformation and aging. Preliminary deformation intensifies the hardening process and significantly increases the strength of the steel with optimal treatment conditions. The structural hardening factors are related to the influence of preliminary deformation on the stress state of the Martensite in the aged steel, the process of separation and the nature of the distribution of intermetallide and carbide phases.

USSR

UDC 669.01:539.4.015

NIZENIK, S. B., PELEPELIN, V. M., USIKOVA, G. I., and CHERNYAK, N. I., Kiev

"Mechanical Properties and Structure of Stainless Martensite-Containing Steel in the Hardened State"

Kiev, Problemy Prochnosti, No 12, Dec 70, pp 41-44

Abstract: The modes for hardening of types Kh16N6 and Kh16N5D3 steel leading to an increase in the resistance to plastic deformation in extension and compression are determined on the basis of a combination of processes of preliminary deformation and aging. The hardened state of Kh16N6 steel is characterized by formation of a more highly stressed submicrostructure of the martensite and coherently bonded segregations (in comparison with the tempered state). Kh16N5D3 steel is characterized by a decrease in the number of defects in the martensite and segregation of incoherent particles of the hardening phase.

1/1

- 36 -

Acc. Nr.

ATO101944

Abstracting Service:

CHEMICAL ABST.

Ref. Code

URO442

111994h Thermomechanical and electrical properties of poly-(butyl methacrylate) polymer homologs. Nizhnik, V. V.; Solomko, V. P.; Zueva, R. A.; Nizhnik, A. S.; Pochinov, V. Ya. (Kiev. Derzh. Univ., Kiev, USSR). *Dopov. Akad. Nauk Ukr. RSR, Ser. B* 1970, 32(1), 67-70 (Ukrain). Thermomech. and thermoelec. properties of the title polymer were dependent upon the mol. wt. of the polymer. Considerable changes were observed, esp. for the elec. vol. resistance, during the transition states of the polymer. O. Elsner

Y/

REEL/FRAME
19851900

CB7

1/2- 024 UNCLASSIFIED PROCESSING DATE--30OCT70
TITLE--RADIOECOLOGICAL PARAMETERS OF THE CHAIN, LICHEN, NORTHERNDEER, MAN
-U-
AUTHOR--(05)--RAMZAYEV, P.V., TROITSKAYA, M.N., IBATULLIN, M.S., MOISEYEV,
A.A., NIZHNIKOV, A.I.
COUNTRY OF INFO--USSR, ARCTIC OCEAN
SOURCE--GIGIYENA I SANITARIYA, 1970, NR 6, PP 38-42
DATE PUBLISHED--70
SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES
TOPIC TAGS--CESIUM ISOTOPE, RADIOACTIVE WASTE, ECOLOGY, GEOGRAPHIC
LOCATION
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--3001/0925 STEP NO--UR/0240/70/000/006/0038/0042
CIRC ACCESSION NO--AP0126584
UNCLASSIFIED

2/2 024

UNCLASSIFIED

PROCESSING DATE--30OCT70

CIRC ACCESSION NO--AP0126584

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. ON THE BASIS OF INVESTIGATIONS CARRIED OUT FOR A PERIOD OF FIVE YEARS (1962-1966) ALONG THE SOVIET COAST OF THE ARCTIC OCEAN FROM CHUKOTKA TO THE KOLA PENINSULA THE AUTHORS DETERMINED THE EXTENT OF MIGRATION OF RADIONUCLIDES, ESPECIALLY THAT OF CS PRIME137 IN THE CHAIN "LICHEN, NORTHER-DEER, MAN". THE FINDINGS MAKE IT POSSIBLE TO PREDICT THE CONTAMINATION LEVEL OF THE CHAIN. THE AUTHORS POINT TO THE NECESSITY OF WIDER RADIOBIOLOGICAL INVESTIGATION OF THE NORTHERN CHAIN, AS THE DOSES ABSORBED IN ITS LINKS APPROACH THE EXISTING MAXIMAL PERMISSIBLE RADIOACTIVE DOSES. FACILITY: LENINGRAD. N-I INST. RADIATIONNOY GIGIYENY MINISTERSTVA ZDRAVCOKHRANENIYA RSFSR.

UNCLASSIFIED

USSR

UDC 632.95

ABRAMOVA, K. A., SHIRANKOV, D. F., NIZENIKOVA, YE. YE., and RUDAVSKIY, V. P.

"A Herbicide"

USSR Authors' Certificate No 301141, Cl. A 01 n 9/02, filed 12 May 70, published 2 Dec 71 (from RZh-Khimiya, No 14, 25 Jul 72, Abstract No 14N537P by T. A. BELYAYEVA)

Translation: The authors suggest the application as herbicides of alkyl esters of chlorinated fatty acids with the formula RCH_2CCl_2COOR' (I) $R = MeC_6H_4$, $MeOC_6H_4$, ClC_6H_4 , BrC_6H_4 , $NO_2C_6H_4$, $R' = Me, Et$), which are obtained by the reaction of nitriles of aliphatic-aromatic acids and alcohols. I's, inactive when applied to the soil, displayed high herbicidal activity when sprayed on the green mass of vegetation. I ($R=p-MeOC_6H_4$, $R' = Me$) displays selectivity for monocotyledonous crops and beans.

1/1

- 50 -

USSR

UDC 546.185

SHEVCHENKO, V. I., NIZHNIKOVA, Ye. Ye., Institute of Organic Chemistry, Academy of Sciences Ukrainian SSR

"Phosphorylation of 2-Chloro-3-Arylpropionitriles"

Leningrad, Zhurnal Obshchei Khimii, Vol 40, No 6, Jun 70, pp 1219-1225

Abstract: Trichlorophosphazo-1,1,2,2-tetrachloro-3-arylpropanes, with C_6H_5 , $o-ClC_6H_4$, $p-ClC_6H_4$, $p-BrC_6H_4$, $o-NO_2C_6H_4$, $p-NO_2C_6H_4$, $m-CH_3C_6H_4$, $p-CH_3C_6H_4$, or $p-CH_3OC_6H_4$ as the aryl group, were prepared by the reaction of the corresponding 2-chloro-3-arylpropionitriles with PCl_5 . The products are easily hydrolyzed by atmospheric moisture. Work-up of the products yielded the corresponding 2,2-dichloro-3-arylpropionic acid nitriles or N-dianilidophosphonyl-2,2-dichloro-3-aryliminopropionic acid anilides, depending on the procedure used.

1/1

- 34 -

USSR

UDC 612.017.1-06:551.581(213)

SHAFRAN, L. M., and NIZHNIY, I. K., Basin Sanitary Epidemiological Station of the Black-Azov Sea Maritime Health Department

"Changes in Nonspecific Immunological Reactivity in Sailors During Tropical Cruises"

Moscow, Zhurnal Mikrobiologii Epidemiologii i Immunobiologii, No 12, 1972, p 132

Abstract: During cruises in tropical zones with an ambient temperature of 47-52°C and a relative humidity of 40%, Black Sea sailors suffer from a depression in nonspecific immune reactivity. The concentration of neutrophils, eosinophils, and lymphocytes in peripheral blood decreases, while the number of monocytes increases. Phagocytic activity of neutrophils is reduced, and alkaline phosphatase activity in these cells is lowered from 30 to 16 units. Furthermore, there is a statistically significant reduction in complement titers (from 0.043 to 0.036), properdin (from 153 to 101), and lysozyme (from 487 to 291). After about 1 month, partial acclimatization takes place, which is followed by a second wave of deteriorating condition in the 5th month in the tropics. The fluctuation in nonspecific immune reactivity during prolonged cruises in tropical zones are reflected in the sailors' morbidity which is high in the 1st month, decreases during the next 3 months, and rises again in the 5th month.

1/1

1/2 029
TITLE--MOLD LININGS -U-

UNCLASSIFIED

PROCESSING DATE--04DEC70

AUTHOR--(05)-NIZKOVSKIY, V.M., KURUKLIS, G.L., GELFENBEIN, E.YU.,
TARLINSKIY, I.V., KHOREV, V.N.
COUNTRY OF INFO--USSR

SOURCE--GER. 1,558,150

DATE PUBLISHED--14MAY70

SUBJECT AREAS--MATERIALS

TOPIC TAGS--CHEMICAL PATENT, MOLD LUBRICANT, EPOXY RESIN, MOLYBDENUM
DISULFIDE, TOLUENE, BUTANOL, ETHANOL, KETONE, ETHYLENE GLYCOL, ACETATE,
PETROLEUM PRODUCT, ORGANIC SOLVENT, METAL CASTING, MOLDING MATERIAL

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRA--3004/0838

STEP NO--GY/0000/70/000/000/0000/0000

CIRC ACCESSION NO--AA0131431

UNCLASSIFIED

2/2 029

UNCLASSIFIED

PROCESSING DATE--04DEC70

CIRC ACCESSION NO--AA0131431

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. MOLD LINING COMPNs. USED IN PRESSURE MOLDING OF METALS WERE PREPD. FROM MOS SUB2, EPOXY RESINS, DI-BU PHTHALATE, AND POLYETHYLENE POLYAMINE DILD. WITH NITRO CONTG. SOLVENTS. A COMPN. OF THIS TYPE WAS DILD. WITH A MIKT. OF PHME, BUOH, ETOH, ME SUB2 CO, ETHYLENE GLYCOL, AND BU OR AMYL ACETATE, COATED ONTO THE WALL OF A MOLD, AND DEGREASED WITH ME SUB2 CO OR ETOH. THE COATING HARDENED MORE QUICKLY THAN PREVIOUS COATING COMPNs. TO GIVE A SMOOTH THIN LINING WHICH INCREASED THE EASE OF REMOVAL OF THE CASTING. AFTER 2-3 CASTINGS, THE SURFACE WAS WASHED WITH PETROLEUM AND RECOATED.

FACILITY: OROZHONIKIDZE, URAL PLANT OF HEAVY MACHINE BUILDING.

UNCLASSIFIED

1/2 027 UNCLASSIFIED PROCESSING DATE--27NOV70
TITLE--TITANIUM DISILICIDE PREPARATION -U-
AUTHOR-(03)-DELIMARSKIY, YU.K., CHERNOV, R.V., NIZOV, A.P.
COUNTRY OF INFO--USSR
SOURCE--U.S.S.R. 264,696
REFERENCE--OTKRYTIYA, IZOBRET., PROM. OBRAZTSY, TOVARNYE ZNAKI 1970, 47(9)
DATE PUBLISHED--03MAR70
SUBJECT AREAS--CHEMISTRY
TOPIC TAGS--CHEMICAL PATENT, ELECTROLYSIS, INERT GAS, TITANIUM COMPOUND,
SILICIDE, FLUORIDE, ALKALI METAL, HALIDE, ARGON
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAE--3001/1467 STEP NO--UR/0482/70/000/000/0000/0000
CIRC ACCESSION NO--AA0126998
UNCLASSIFIED

2/2 027

UNCLASSIFIED

PROCESSING DATE--27NOV70

CIRC ACCESSION NO--AA0126998

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. TI DISILICIDE IS PREPD. BY
ELECTROLYSIS IN AN INERT GAS, E.G. AR, ATM. IN AN ELECTROLYTE CONTG.
ALKALI METAL HALIDES AND HAVING THE FOLLOWING COMPN. (IN WT. PERCENT):
NaCl, KCl (1:1) 55-7, ALKALI METAL FLUOROSILICATE 30-8, AND A TI, CONTG.
COMP., E.G. TiO SUB2 OR Na SUB2 TiF SUB6, 5-10. FACILITY:
INSTITUT OBSHCHEYI NEORGANICHESKOY KHIMII AN UKRAINSKOY SSR.

UNCLASSIFIED

USSR

UDC: 533.932

NIZOVSKIY, V. L., SHABASHOV, V. I., Institute of High Temperatures of the Academy of Sciences of the USSR

"On the Problem of Measuring the Thermal Conductivity of a Hydrogen Plasma in a Stabilized Electric Arc"

Moscow, Teplofizika Vysokikh Temperatur, Vol 11, No 2, Mar/Apr 73, pp 251-255

Abstract: An explanation is proposed for the causes of the discrepancy between theoretical and experimental data on the thermal conductivity of a hydrogen plasma. It is shown that the deviation in the temperature region between the dissociation and ionization peak of thermal conductivity is due to the disruption of chemical equilibrium in the wall zone of the arc. In the temperature region beyond the ionization peak the concentration of neutral atoms changes by a considerable factor even with a small deviation of the degree of ionization from equilibrium. This may lead to an appreciable error in the measurement of temperatures and hence to an error in determination of thermal conductivity. The authors thank E. I. Asinovskiy for formulating the problem and for continued interest in the work.

1/1

USSR

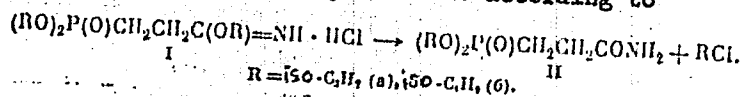
UDC 547.341

SHISHKIN, B. YE., YELFIMOVA, S. N., and NO, B. I., Volgograd Polytechnical Institute

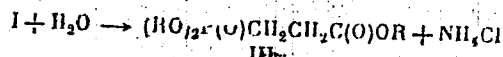
"Conversion of Hydrochlorides of C-Phosphorylated Imidates Into Amides and Phosphonylcarboxylate Esters"

Leningrad, Zhurnal Obshchey Khimii, Vol 42(104), Vyp 10, 1972, pp 2346

Abstract: Thermal decomposition of the hydrochlorides yielded alkyl chlorides and amides of β -dialkylphosphonylcarboxylic acids according to



The reaction was carried out at 110-130°C; alkyl chlorides were collected in a trap cooled to -70°C, amides were viscous liquids which crystallized in 1-2 months. Hydrolysis of (I) yielded β -dialkylphosphonylpropionate esters (III):



1/2

USSR

SHISHKIN, B. YE., et al., Zhurnal Obshchey Khimii, Vol 42 (104), Vyp 10, 1972, p 2346

Boiling points of amides (IIa) and (IIb) were 103-105 and 112-113°C, respectively.

Ester (IIIa) was characterized by b.p. 110°C, d_4^{20} 1.0430, n_D^{20} 1.4350, M_R^D 70.04; and ester (IIIb), b.p. 156°C, d_4^{20} 1.0020, n_D^{20} 1.4360, M_R^D 84.00.

Both esters had an absorption band at 1740 cm^{-1} in their IR spectra.

USSR

UDO 537.311.33:546.289

KONOPLEVA, R.F., NOBIKOV, S.R., RUBINOVA, E.E., ZAPOROZHCHENKO, YU.A.

"Investigation Of Radiation Defects In Germanium With Irradiation By High Energy Protons"

V sb. Radiatsion. fiz. nemet. kristallov (Radiation Physics Of Nonmetal Crystals--Collection Of Works), Minsk, Nauka i tekhn., 1970, pp 106-111 (from RZh--Elektronika i yeye primeneniye, No 1, January 1971, Abstract No 1B25)

Translation: The results are presented of an investigation of the temperature dependence and spectral curves of the impurity photoconductivity for n-type Ge with an initial concentration of Sb of $2 \cdot 10^{15} \text{ cm}^{-3}$ and of p-type with a concentration of Ga of $4 \cdot 10^{14} \text{ cm}^{-3}$ irradiated by protons with an energy of 660 Mev with various integrated fluxes (from $1 \cdot 10^{11}$ to $1 \cdot 10^{14} \text{ r/cm}^2$). The initial rate of formation is determined for the defects, which for n- and p-Ge proved to be on the order of 10^2 cm^{-1} . The theoretical computation presented of the number of displaced atoms shows that the portion in the formation of defects as a result of Rutherford scattering is small. The number of displaced atoms owing to nuclear elastic and nonelastic interactions amount to 10^3 and 10^2 cm^{-1} , respectively. It is found that during irradiation, acceptor levels are primarily found

1/2

USSR

KONOFLEVA, R. F., et al., Radiatsion. fiz. nemet. kristallov, 1970, pp 106-111 (from RZh--Elektronika i yeye primeneniye, No 1, January 1971, Abstract No 1R25)

in n- and p-type Ge. From the temperature dependence of the Hall constant and the spectral curves of the impurity photoconductivity, the eight levels pertaining to the radiation defects are determined ($E_c - 0.1$ e.v., $E_c - 0.20$ e.v., $E_c - 0.27$ e.v., $E_c - 0.34$ e.v., $E_v + 0.27$ e.v., $E_v + 0.20$ e.v., $E_v + 0.12$ e.v., $E_v + 0.065$ e.v.) 6 ill. 2 tab. 2 ref. Summary.

2/2

- 102 -

USSR

UDO 537.311.33:546.289

KONOPLEVA, R.F., NOBIKOV, S.R., RUBINOVA, E.E., ZAPOROZHCHENKO, YU.A.

"Investigation Of Radiation Defects In Germanium With Irradiation By High Energy Protons"

V sb. Radiatsion. fiz. nemet. kristallov (Radiation Physics Of Nonmetal Crystals--Collection Of Works), Minsk, Nauka i tekhn., 1970, pp 106-111 (from RZh--Elektronika i yeye primeneniye, No 1, January 1971, Abstract No 1825)

Translation: The results are presented of an investigation of the temperature dependence and spectral curves of the impurity photoconductivity for n-type Ge with an initial concentration of Sb of $2 \cdot 10^{15} \text{ cm}^{-3}$ and of p-type with a concentration of Ga of $4 \cdot 10^{14} \text{ cm}^{-3}$ irradiated by protons with an energy of 560 Mev with various integrated fluxes (from $1 \cdot 10^{11}$ to $1 \cdot 10^{14} \text{ r/cm}^2$). The initial rate of formation is determined for the defects, which for n- and p-Ge proved to be on the order of 10^2 cm^{-1} . The theoretical computation presented of the number of displaced atoms shows that the portion in the formation of defects as a result of Rutherford scattering is small. The number of displaced atoms owing to nuclear elastic and nonelastic interactions amount to 10^3 and 10^2 cm^{-1} , respectively. It is found that during irradiation, acceptor levels are primarily found in n- and p-type Ge. From the temperature dependence of the Hall constant and the spectral curves of the impurity photoconductivity, the eight levels pertaining to the radiation defects are determined ($E_c - 0.1 \text{ e.v.}$, $E_c - 0.20 \text{ e.v.}$, $E_c - 0.27 \text{ e.v.}$, $E_c - 0.34 \text{ e.v.}$, $E_v + 0.27 \text{ e.v.}$, $E_v + 0.20 \text{ e.v.}$, $E_v + 0.12 \text{ e.v.}$, $E_v + 0.065 \text{ e.v.}$) 6 ill. 2 tab. 2 ref. Summary.

UDC 619:616.576.858.2

USSR

NOCHEVNYI, V. T., All Union Scientific Research Institute of Veterinary
Virology and Microbiology

"Methods of Culturing Aujeszky's Disease Virus in Cell Suspensions"

Moscow, Veterinariya, No 10, Oct 70, pp 44-47

Abstract: Aujeszky's disease virus (modified BUK strain, virulent P strain, and virulent Vratsa strain) was successfully cultured in suspensions of 10- to 11-day chick embryo cells without mixing (stationary method), in rotating vessels (roller method), and in special vessels with suspended magnets (spinner method). The optimum cultivation conditions were as follows: cell concentration, 2.0 to 4.0 million/ml; infective dose of 0.01 to 0.5 TCD₅₀/ml per cell; addition to the medium of 1 to 10% cattle serum; pH 7.4 to 7.8; and filling of the vessels to 0.3 to 0.7 of the total volume. All three strains tested accumulated to the same extent. Comparative serial passaging of the virus in suspension and monolayer showed that the titer increased with the number of passages and, in most cases, was higher after submerged culturing.

1/1

(4)

USSR

VERSHIGORA, A. Ye., DYACHENKO, S. S., LISUNKINA, I. K., MORGUNOV, I. N.,
NOGACHEVSKIY, I. I., TEREKHOV, S. N., CHERNUSHENKO, Ye. F., and YAGUD, S. L.,
Editors, Ministry of Health, Ukrainian SSR

Immunologiya. Respublikanskiy mezhvedomstvennyy sbornik (Immunology.
Republic Interdepartmental Collection), No 5, "Zdorov'ya," Kiev, 1972

Translation: Annotation: Articles included in the collection deal with the
most pressing problems of theoretical and practical immunology, viz., mechanism
of the formation of antibodies and immunological reactivity, allergy and clinical
and experimental immunopathology, specific prophylaxis, and reactogenicity
of vaccines and postvaccinal complications. Works aimed at devising methods
of immunological investigations help to solve problems of modern immunology.

The previous four issues of this collection were published under the title of
"Voprosy Immunologii" (Problems of Immunology).

The collection is of interest to scientific workers, practitioners of various
specialties, and to senior students of medical institutes.

191 pages. 52 Russian articles with Russian abstracts.
1/10

USSR

VERSHIGORA, A. Ye., et al., Immunologiya. Respublikanskiy mezhvedomstvennyy sbornik (Immunology. Republic Interdepartmental Collection), No 5, "Zdorov'ya," Kiev, 1972

Page

Contents

Mechanism of Formation of Antibodies
and Immunological Reactivity

Morgunov, I. N., Bordonos, V. G., Kolesnikov, M. M. Formation of Antibodies by Cells of Lymph Nodes in Primary and Secondary Immunological Response.	3
Aronov, G. A., Gandziy, G. P. The Study of Early Stages of the Formation of Antibodies by Immunocompetent Cells of the Organism in the Process of Immunization	7
Morgunov, I. N., Bordonos, V. G., Kolesnikov, M. M. A Study of the Summation Mechanism of Antigenic Stimulation at the Cellular Level	10
Lisunkina, I. K. Peculiarities of Resorption of Diphtheria Anatoxin in the Organism of Experimental Animals	13
Lisunkina, I. K. Immunofluorescent Method of Studying the Antibody Formation in Rabbits Immunized With Diphtheria Anatoxin	16

2/10

USSR

VERSHIGORA, A. Ye., et al., Immunologiya. Respublikanskiy mezhvedomstvennyy sbornik (Immunology. Republic Interdepartmental Collection), No 5, "Zdorov'ya," Kiev, 1972

Page

Sokhin, A. A., Lysakova, V. I. Induction of the Synthesis of Antibodies and Formation of Anamnestic Reactions on Administration of Various Doses of Pertussis Antigen to Immature Animals	19
Tychinin, V. A., Nogachevskiy, I. I. On the Influence of Cervical Portion of the Sympathetic Nervous System on the Production of Antibodies	22
Dyachenko, S. S., Karavanskaya, N. A., Comparative Study of the Plasmocytic Reaction and the Level of Antibodies in Lymph Nodes of Rats on Vaccination Under the Action of Hormones	26
Chebotarev, V. F. Hemolysin Titers and Antibody-Forming Cells in the Blood of White Rats on Administration of Desoxycorticosterone Acetate (DOCA)	31
Moroz, A. P. A Study of Antibody-Forming Cells in Lymphatic Nodes of Animals Fed Different Protein Rations	33
Karavanskaya, N. A. Cytologic Shifts in Lymph Nodes of White Rats on Their Vaccination Under Conditions of Different Thermal Regime	37
Minervin, S. M. (decd.). The Problem of Activation and Potentiation of Bacterial Toxins	41

3/10

(4)

USSR

VERSHIGORA, A. Ye., et al., Immunologiya. Respublikanskiy mezhvedomstvennyy sbornik (Immunology. Republic Interdepartmental Collection), No 5, "Zdorov'ya," Kiev, 1972

Page

Yagud, S. L. A Study of the Relationship Between Sal. Typhi Bacilli and Cells in Macrophage Culture	43
Pozhidayeva-Sinitsyna, L. A., Lazareva, N. V. The Influence of Streptococcal Allergen and Streptolysin O on the Development of Plasmocytic Reaction in Lymph Nodes Under Antigenic Action	46
Mol'chenko, Ye. F. Influence of Chloridine and Sulfamezathine on Antibody Formation in White Rats in Experimental Toxoplasmosis	49
Allergy and Immunopathology	
Chernushenko, Ye. F. Some Data on Mechanism of Allergizing Action of Antibiotics	52
Nogachevskiy, I. I., Pototskiy, I. I. Influence of Fungous Allergens on Phagocytic Function of Neutrophils in Allergic Dermatoses	58
Bubliy, V. P., Panchenko, L. A. On Auto-Antibodies Occurring in the Blood of Patients Affected With Infectious Hepatitis and Some Other Diseases	62

4/10

USSR

VERSHIGORA, A. Ye., et al., Immunologiya. Respublikanskiy mezhvedomstvennyy sbornik (Immunology. Republic Interdepartmental Collection), No 5, "Zdorov'ya," Kiev, 1972

Page

Urazalin, M. M. On Antigenic Properties of Penicillin and Streptomycin	65
Martynov, S. M., Gromnatskiy, N. I., Vygovskaya, Ya. I. Thrombocytopenic Purpura of Allergic Genesis	66
Loginskiy, V. Ye., Dudykevich, G. B. Blastotransformation as the Indicator of Immunological Competence of Lymphocytes in Patients With Hemoblastosis	68
Mikhnev, A. L. (decd.), Ptukha, R. M., Grinevich, Yu. A. On Peculiarities of Nonactive Phase of Rheumatism From the Viewpoint of Nonspecific Immunity	70
Andrenko, P. T. The Content of Auto-Antibodies in the Blood of Patients With Hypertension and in Renal Diseases	75
Okuneva, L. M. Reaction of Regional Lymph Nodes on Homotransplantation of Bony Tissue of Different Storage Life	78
Gyulling, E. V. Dynamics of the Functional State of Sound and Vestibular Analysors During Sensitization Period Following the Resolving Injection of Allergen and in Experimental Serum Sickness	82

5/10

(4)

USSR

VERSHIGORA, A. Ye., et al., Immunologiya. Respublikanskiy mezhvedomstvennyy sbornik (Immunology. Republic Interdepartmental Collection), No 5, "Zdorov'ya," Kiev, 1972

Page

Balitskiy, K. P., Veksler, I. G., Rachkovskaya, G. P., Struk, V. I., Umanskiy, Yu. A., Fedorovskaya, M. I., Kharzhevskaya, A. N. Changes in the State of Immunological Reactivity of Experimental Animals Under the Influence of Anticancerous Chemotherapy	87
Suponitskaya, V. M. A Study of the Influence of Allergization of the Organism on Some Components of the Natural Resistance System	92
Suponitskaya, V. M. On the Influence of Anaphylactic Shock on the Nonspecific Apparatus of Organism Protection	96
Andreychin, The State of Bactericidal System of the Blood in Patients Affected With Infectious Hepatitis	99
Batyuk, I. F., Gorchakov, V. A. The Action of Cytotoxic Serum on Mitochondria of Human Tonsils	102
Kryshtab, A. M. Changes in Certain Factors of Immunological Reactivity of the Organism Under the Effect of Metallic Chromium Dust and Its Refractory Compounds	104

6/10

USSR

VERSHIGORA, A. Ye., et al., Immunologiya. Respublikanskiy mezhvedomstvennyy sbornik (Immunology. Republic Interdepartmental Collection), No 5, "Zdorov'ya," Kiev, 1972

Page

Specific Prophylaxis

Shekhter, A. B., Tsipershteyn, M. Ya. A Study of Immunological Structure of the Population of Darnitskiy Rayon of the City of Kiev With Respect to Measles	107
Popkova, Ye. G., Kosarikhina, N. A., Madovskaya, F. Ya. Reactions to Vaccinations and Complications Caused by Them	110
Proskurov, V. A. Autovaccinotherapy in Staphylococcal Sepsis	113
Khil'ko, I. N. Reactogenic and Immunogenic Properties of Living Measles Vaccine of the Academy of Medical Sciences USSR, Strain EShCh	115
Pozhidayeva-Sinitsyna, L. A. The Influence of Aluminum Alum Precipitated Streptococcal Allergen on the Formation of Anti-tetanic Immunity	118
Stratiyenko, L. M., Yakovenko, Z. F., Itkis, S. N., Kuznetsov, G. M., Trubina, L. M. The State of Immunity in Children Inoculated With Measles Vaccine, Strain EShCh	122

7/10

4

USSR

VERSHIGORA, A. Ye., et al., Immunologiya. Respublikanskiy mezhvedomstvennyy sbornik (Immunology. Republic Interdepartmental Collection), No 5, "Zdorov'ya," Kiev, 1972

Page

Vasil'yev, K. G., Trubina, L. M., Sochinskiy, V. A., Lyudskaya, S. K., Dudnik, R. M. Relationship Between the Time of Contraction of Measles and the Level of Antibodies to This Infection acc. to the Data of Hemagglutination Inhibition Reaction	124
Pushkarenko, Ya. Ye. Experimental Investigation of Inhibiting Activity of the Serum in Brucellosis	127
Kostyukovskaya, O. N. On the Role of Antitoxic Immunity in Pathogenesis of Diphtheria Carriage	131
Paliy, G. K. The Influence of Decamethylene-1,10-BIS (N-dimethylcarbmenthoxymethylammonium) dichloride on Titers of Agglutinins and Complement in Experiment	133
Struk, Ye. V. Immunological Shifts in the Organism of Animals Upon Administration of KDS Vaccine and Its Components	136

Methods of Immunological Investigations

Chernushenko, Ye. F. Application of Immunofluorescent Method for Detection of Antituberculosis Antibodies	141
---	-----

8/10

- 92 -

USSR

VERSHIGORA, A. Ye., et al., Immunologiya. Respublikanskiy mezhvedomstvennyy sbornik (Immunology. Republic Interdepartmental Collection), No 5, "Zdorov'ya," Kiev, 1972

Page

Mol'chenko, Ye. F., Buyanovskaya, N. V., Krivets, T. A. On the Procedure for the Use of the Immunofluorescent Method for the Study of Antibody Formation in White Rats Immunized With Living Culture of RH Strain of Toxoplasma	143
Degtyar, N. V. Investigation of Protein Fractions of the Blood Serum of Rabbits Infected With Brucella of Various Degrees of Virulence	145
Mogireva, L. A. Serological Diagnosis of Leptospirosis Using the Passive Hemagglutination Reaction	148
Korenev, I. P., Koreneva, G. P., Shikayeva, F. V. The Use of the Immunological Method of Determining Luteinizing Hormone of the Hypophysis for the Study of Certain Forms of Pathology of the Menstrual Cycle	151
Grazhdanov, N. P. The Possibility of Using V-Hemagglutination Reaction With Erythrocytic V-Diagnosticum as a Method of Mass Examination of the Population for Typhoid Carrying	155
Kogosova, L. S. On Immunological Criteria of the Activity of the Tuberculous Process	157

9/10

USSR

VERSHIGORA, A. Ye., et al., Immunologiya. Respublikanskiy mezhvedomstvennyy sbornik (Immunology. Republic Interdepartmental Collection), No 5, "Zdorov'ya," Kiev, 1972

Page

Yagud, S. L., Barshteyn, Yu. A. Application of the Method of
Fluorescent Antibodies for Studying Localization of Typhoid
Antigen in Experimental Infection
Valkovtsy, A. A. A Study of the Content of Staphylococcal
Antilecithinase in the Blood Serum of Healthy and Sick Persons
Berezka, S. I. Immunological Investigations in Diagnosis of
Latent Forms of Chronic Pancreatitis in Patients Affected With
Peptic Ulcer and Chronic Cholecystitis
Abstracts

162

165

167

173

10/10

- 93 -

1/2 023 UNCLASSIFIED PROCESSING DATE--18SEP70
TITLE--ON NUTRITIVE ALLERGY -U-
AUTHOR-(02)-NOGALLER, A.M., GORBUNOV, YU.V.
COUNTRY OF INFO--USSR
SOURCE--VRACHEBNOYE DELO, 1970, NR 2, PP 82-84
DATE PUBLISHED-----70
SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES
TOPIC TAGS--ALLERGIC DISEASE, ANTIBODY, FOOD, SKIN TEST
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAE--1982/0797 STEP NO--UR/0475/70/000/002/0082/0084
CIRC ACCESSION NO--AP0052234
UNCLASSIFIED

2/2 023

UNCLASSIFIED

PROCESSING DATE--18SEP70

CIRC ACCESSION NO--AP0052234

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. POSITIVE INTRACUTANEOUS TESTS TO INTRODUCTION OF NUTRITIVE ALLERGENS HAVE BEEN FOUND IN 101 (33PERCENT) OF 308 PATIENTS WITH COMPLAINTS OF FOOD INTOLERANCE. IN THE ABSENCE OF CLINICAL SYMPTOMS OF NUTRITIVE ALLERGY CUTANEOUS TESTS PROVED NEGATIVE. FREELY CIRCULATING ANTIBODIES TO FOOD PRODUCTS WERE DETECTED BY MEANS OF THE PRAUSNITZ KUSTNER REACTION IN 45PERCENT OF PATIENTS AND BY MEANS OF THE SHELLEY REACTION OF BASOPHIL DEGRANULATION IN 37PERCENT. ALL THESE PATIENTS SHOWED DISTINCT CLINICAL SYMPTOMS OF NUTRITIVE ALLERGY AND POSITIVE CUTANEOUS TESTS TO FOOD ALLERGENS. DETECTION OF NUTRITIVE ALLERGY SHOULD BE BASED ON COMPLEX EVALUATION OF CLINICAL DATA AND STUDY OF ANTIBODIES TO THE SUSPECTED FOOD PRODUCTS.

UNCLASSIFIED

Acc. Nr:

AP0047114

Ref. Code: URO504

PRIMARY SOURCE: Terapevticheskiy Arkhiv, 1970, Vol 42, Nr / ,
pp 64-67

CHARACTERISTICS OF IMMUNOLOGICAL REACTIVITY
AND MICROBIAL SENSITIZATION OF PATIENTS
WITH CHRONIC CHOLECYSTITIS

A. M. Nogaller

Summary

The author investigated the indices of the immunobiological condition of the organism in 300 patients with chronic cholecystitis. The phagocytic activity of leucocytes was low in 30%, and in 22% of the patients it appeared to be high. In most of the patients distortion of leucocytic reactions to adrenaline and decrease of nonspecific immunological reactivity according to Ioffe was observed.

In most of the patients there was seen sensitization to conditionally pathogenic microflora — B. coli, streptococcus, staphylococcus, seldom — to enterococcus and proteus. In the recent years there has been noted a rise in allergization to staphylococcus. In some of the patients there is a rise in the titre of the agglutinating antibodies to B. coli and staphylococcus in the blood serum. Under the influence of treatment there was seen a tendency to normalization of the indices of the immunobiological condition of patients with chronic cholecystitis.

REEL/FRA

19790606

NOGAYEV, M.A.

Ferrous Metallurgy

DEVELOPMENT OF MARTENSITIC CONVERSION DURING DEFORMATION AND THE MECHANICAL PROPERTIES OF TRIP STEEL

640370

6820195

Article by O. P. NIKOLAYEV, L. N. ULYASHOV, V. N. ZEMCHENKO, A. A. NOGAYEV, I. P. BARDIN; Central Scientific Research Institute of Ferrous Metallurgy, Moscow, Fizika metallov i metallovedeniye, Russian, Vol 34, No 5, 1972, submitted 19 October 1971, PP 1075-1087

UDC 669.13.018.295

A study was made of the interrelation of martensitic conversion during deformation and the structure and mechanical properties of trip steel having different inclination toward the formation of deformation martensite. The effect of the warm work hardening and the test temperature on the characteristics of trip steel were investigated. The characterizing features of the fine structure of this steel explaining the causes of severe hardening during warm work hardening of austenite and the increase in the strain hardening coefficient during subsequent tensile testing are described.

A great deal of experimental material accumulated in the Soviet Union and abroad on the laws of martensitic conversions in various alloys and under various conditions have provided a scientific basis for creating a new class of structural steel -- metastable austenitic complexly alloyed steel (trip steel in the English terminology) hardened by warm work hardening and having high strength with very high plasticity. The latter is insured by the martensitic conversion during plastic flow (loading); the shear mechanism of the conversion causes relaxation of the peak stresses, and the formation of the carbide martensite in the work hardened austenite -- severe local hardening preventing premature necking and rupture. The extraordinary combination of strength and plasticity which cannot be obtained by other known methods of thermal and thermomechanical treatment has in recent years attracted the attention of many researchers to this new class of steel [1-6].

The most complete and efficient utilization of trip steel as a structural material is possible only under the condition of sufficiently comprehensive study of the phase transformations, the structural changes and mechanical behavior of the steel -- in connection with the role of such important factors as the peculiarities of the composition (the position of the

M_s point, the inclination toward carbide formation, the capacity for γ - α or γ - δ martensitic conversion, and so on), the conditions of initial hardening, thermomechanical treatment (temperature, degree of work hardening, the deformational stability, subsequent aging, and so on) and, finally, the mechanical testing conditions (the temperature and rate conditions primarily).

This article contains a discussion of the results of some studies performed on trip steel of compositions close to those proposed in [1]. Studies were made of the peculiarities of the structural state of the initial work hardened austenite, the interrelation between the kinetic picture of the transformation to conversion and the formation of the properties during mechanical testing and the peculiarities of the structure of the final conversion products arising as a result of these tests.

Experimental Procedure and Material

A study was made of two groups of steel -- with 0.3 and 0.5 percent C in which the resistance of the austenite to martensitic conversion varied by variation of the manganese content known for its very sharp effect on the position of the M_s and M_d points. With sufficiently strict selection of the composition with respect to the other alloying elements (Cr, Ni, Mo, Si) the manganese content varied in the steel with 0.3 percent C from 1.4 to 2.7 percent, and in the steel with 0.5 percent C, from 1.4 to 5.4 percent (Table 1). In order to compensate for the effect of the carbon on the position of the M_s point, the nickel content in the group of steels with 0.5 percent C was reduced.

Table 1
Chemical composition of the investigated steel, percent by weight

N	C	Mn	Cr	Ni	Mo	Si
1	0.32	1.40	9.30	7.70	4.0	2.0
2	0.32	1.83	9.10	7.40	4.1	1.7
3	0.33	2.35	8.90	7.40	4.0	2.0
4	0.33	2.70	8.50	7.40	4.0	2.0
5	0.33	1.70	9.00	5.55	4.15	2.0
6	0.34	1.70	8.55	6.00	4.00	1.9
7	0.37	2.35	8.40	6.40	4.25	2.0
8	0.36	2.70	8.25	6.40	4.25	2.0
9	0.36	3.73	8.25	5.40	4.25	2.0
10	0.38	4.71	9.15	5.75	4.25	2.0
11	0.37	5.43	9.15	5.60	4.25	2.0

The steel was made in a vacuum induction furnace. The ingots (10 kg) were forged into 10x10 mm bars -- billets under warm work hardening; the billets were subjected to water quenching from 1,150° C and work hardening by rolling at temperatures of T_y from +20° to 650° with a different degree of reduction for partial reduction of about 10 percent. Samples were cut free

172 014 UNCLASSIFIED PROCESSING DATE--ZUNUV70
TITLE--EFFECT OF PROTON ACIDITY ON THE KINETIC ACTIVITY OF PALLADIUM II,
COPPER I, AND MERCURY II COMPLEXES IN THE HYDRATION OF ACETYLENE IN
AUTHOR--(04)--SOKOLSKIY, D.V., DORFMAN, YA.A., SEGIZBAYEVA, S.S.,
NOGERBEKOV, B.YU.
COUNTRY OF INFO--USSR
SOURCE--ZH. PRIKL. KHIM. (LENINGRAD) 1970, 43(3), 502-7
DATE PUBLISHED--70
SUBJECT AREAS--CHEMISTRY
TOPIC TAGS--PALLADIUM COMPOUND, COPPER COMPLEX, MERCURY COMPLEX, COMPLEX
COMPOUND, HYDRATION, ACETYLENE, PROTON, SULFURIC ACID, CHEMICAL REACTION
MECHANISM
CTRL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--3004/1979 STEP NO--UR/0080/70/043/003/0502/0507
CIRC ACCESSION NO--AP0132240
UNCLASSIFIED

2/2 014

UNCLASSIFIED

PROCESSING DATE--20NOV70

CIRC ACCESSION NO--AP0132240

ABSTRACT/EXTRACT--(U) GP-O- ABSTRACT. THE RATE OF HYDRATION OF C SUB2 H SUB2 INCREASES WITH INCREASE IN H PRIME POSITIVE ACIDITY IN SOLNS. OF HGSO SUB4, CU SUB2 SO SUB4-CUSO SUB4, OR PDSO SUB4-FE SUB2 (SO SUB4) SUB3. THIS RESULT IS EXPLAINED BY A REACTION MECHANISM IN WHICH THE METAL COMPLEX (CH TRIPLE BOND CH.MEX SUBN) PRIMEM PLUS H SUB3 O PRIME POSITIVE IN EQUILIBRIUM (CH SUB2 TRIPLE BOND CH.MEX SUBN) PRIMEM PLUS 1 MINUS H SUB2 O YIELDS (CH SUB2:CH.H SUB2 O.MEX SUBN) PRIMEM PLUS 1 MINUS 2H PRIME POSITIVE YIELDS (CHOH:CH.MEX SUBN) PRIMEM MINUS 1 MINUS H PRIME POSITIVE YIELDS CHOH:CH SUB2 PLUS MEX SUBN, IN WHICH THE RATE IN THE LAST STEP IS INCREASED BY AN INCREASE IN (H SUB3 O PRIME POSITIVE).

FACILITY: INST. KHIM. NAUK, ALMA-ATA, USSR.

UNCLASSIFIED

USSR

UDC 517.53:517.947.42

W
KAPSHIVYY, A. A., NOGIN, N. V.

"With Regard to the Solution of Problems Concerning the Complex X-Analytical Potential for a Spherical Round Disk"

Ukrainskiy Matematicheskiy Zhurnal, Vol 22, No 3, 1970, pp 369-374

Abstract: The formulation and the general approach with respect to the method of solving problems concerning the complex x-analytical potential for a spherical round disk are given in the works of G. N. Polozhiy, in which, by means of a basic integral representation of the x-analytical functions, the solution of these problems is reduced to a solution of the Riemann-Hilbert problem for analytical functions. In the present article it is shown that the solution of problems concerning the complex x-analytical potential for a spherical round disk by the method of G. N. Polozhiy is reduced to the problem of a discontinuity for analytical functions. The solution is found in closed form. In the same manner, it is possible to solve problems concerning the complex x-analytical potential for a flat circular disk.

1/1

USSR

NOGIN, V. N.

UDC: 621.375.146

"A High-Efficiency Power Amplifier"

Kiev, IVUZ Radioelektronika, Vol 15, No 5, May 72, pp 556-564

Abstract: The author discusses two variations of an amplifier circuit which utilizes the principle of power supply from two sources having different voltages. The higher the absolute value of the instantaneous amplitude of the waveform being amplified, the higher the voltage of the supply source. An analysis is made of performance from the energy standpoint when amplifying a sinusoidal waveform, as well as with actual speech signals. Recommendations are made on selecting the second power supply voltage. Experimental results are given. It is found that the proposed type of amplifier circuit increases efficiency with a slightly more complicated arrangement than in conventional amplifier circuits. The greatest gain in efficiency is realized when amplifying comparatively weak signals. The maximum useful power taken from the transistors can be more than doubled when sinusoidal signals are amplified. Maximum efficiency is 85.9% in this case. Use of the proposed circuit approximately doubles efficiency when amplifying actual speech signals. The gain in efficiency is even greater when the ratio of the output voltage to the supply voltage is less than unity.

- 1 -

Organometallic Compounds

USSR

UDC 542.944:546.14:547.258.11

NESMEYANOV, A. N., NOGINA, O. V., DROGUNOVA, G. I., and LOKSHIN, B. V.,
Institute of Hetero-Organic Compounds, Academy of Sciences USSR

"Bromination of Pentamethylcyclopentadienyltitanium Tribromide"

Moscow, Izvestiya Akademii Nauk SSSR, Seriya Khimicheskaya, No 2, 1973,
pp 406-410

Abstract: Studies were conducted on the reactivity of the titanium-cyclopentadienyl bond as influenced by the substituents on the cyclopentadienyl ring. Pentamethylcyclopentadienyltitanium tribromide (I) was obtained by dropwise addition, with mixing, of 8.8 g of acetyl bromide in 4 ml hexane to 7.7 g of $C_5(CH_3)_5Ti(CO_2H_5)_3$ in 7 ml of hexane. The crystals formed overnight represented a 91% yield (9.36 g) of $C_5-(CH_3)_5TiBr_3$, m.p. 242-250° (from hexane), and were dark-red. The synthesis and other experiments were conducted in an atmosphere of inert gas. I was characterized by IR, PMR, and NMR spectroscopy. The substitution of a single bromine atom for a hydrogen atom in a methyl group was achieved under the following conditions: 1) 2.34 g of bromine was added with mixing to 5 g of I in 250 ml of CCl_4 . The mixture was irradiated with a 220 watt Hg-quartz lamp for 10 h at 45-50° at a distance of ~50 cm; the yield of 1/2

USSR

NESMEYANOV, A. N., et al., Izvestiya Akademii Nauk SSSR, Seriya Khimicheskaya, No 2, 1973, pp 406-410

$[C_5(CH_3)_4CH_2Br] TiBr_3$ (II) was 40%.2) II could also be obtained with an excess of bromine and longer exposure times in 48% yield. Bromination of I could also be obtained with N-bromosuccinamide in the presence of either azodisobutyronitrile or UV irradiation; the respective yields were 13 and 28%. Introduction of even a single bromine atom into I markedly alters the reactivity of the titanium-cyclopentadienyl bond to nucleophilic reagents. Ethanol was capable of breaking the η -bound ring of II even after a few minutes at room temperature. The data indicate that in addition to breaking the $Ti-C_5(CH_3)_4CH_2Br$ bond, there occurs dehydrobromination of the organic fragment of the molecule which, apparently, results in fulvene formation.

2/2

- 31 -

1/2 022 UNCLASSIFIED PROCESSING DATE--16OCT70
TITLE--PROPHYLACTIC APPLICATION OF DRY POLYVALENT DYSENTERY BACTERIOPHAGE
WITH PECTIN IN CHILDREN'S PRE SCHOOL INSTITUTIONS -U-
AUTHOR--(05) SOLODOVNIKOV, YU.P., PAVLOVA, L.I., MEL'YANOV, P.I., GARNOVA,
N.A., NOGIEVA, YU.B.
COUNTRY OF INFO--USSR.
SOURCE--ZHURNAL MIKROBIOLOGII, EPIDEMIOLOGII I IMMUNOBIOLOGII, 1970, NR 5,
PP 131-137
DATE PUBLISHED-----70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--PROPHYLAXIS, BACTERIOPHAGE, DYSENTERY, EPIDEMIOLOGY

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRA--1994/0139

STEP NO--UR/0016/70/000/005/0131/0137

CIRC ACCESSION NO--AP0114535
UNCLASSIFIED

UNCLASSIFIED

PROCESSING DATE--16OCT70

2/2 022

CIRC ACCESSION NO--AP0114535

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE AUTHORS PRESENT THE RESULTS OF STRICTLY CONTROLLED EPIDEMIOLOGICAL TRIAL ON THE STUDY OF THE EFFICACY OF DRY POLYVALENT DYSENTERY BACTERIOPHAGE WITH PECTIN IN CHILDREN'S PRE SCHOOL INSTUTIONS OF YAROSLAVL. THE CHILDREN WERE GIVEN BACTERIOPHAGE DAILY DURING THE MONTHS FROM JUNE TO OCTOBER. THIS LED TO DECREASE OF THE INCIDENCE OF THE FOLLOWING DISEASES IN THE GROUP UNDER STUDY: OF BACTERIOLOGICALLY CONFIRMED DYSENTERY, 2.5 TIMES, OF CLINICALLY AND BACTERIOLOGICALLY CONFIRMED DYSENTERY, 2.3 TIMES, AND OF THE SUM TOTAL OF ACUTE INTESTINAL DISEASES, 2.1 TIMES. FACILITY: TSENTRAL'NYI INSTITUT EPIDEMIOLOGII, GOR'KOVSKIY INSTITUT EPIDEMIOLOGII I MIKROBIOLOGII, YAROSLAVSKAYA GORODSKAYA SANITARNO-EPIDEMIOLOGICHESKAYA STANTSIIYA.

UNCLASSIFIED

1/2 025 UNCLASSIFIED PROCESSING DATE--13NOV70
TITLE--NUMERICAL INVESTIGATION OF FREE CONVECTION IN THE CASE OF HEATING
FROM ABOVE -U-
AUTHOR-(02)-BERKOVSKIY, B.M., NOGOTOV, YE.F.
COUNTRY OF INFO--USSR
SOURCE--AKADEMIYA NAUK SSSR, IZVESTIYA, MEKHANIKA ZHIKOSTI I GAZA,
MAR.-APR. 1970, P. 147-154
DATE PUBLISHED-----70
SUBJECT AREAS--PHYSICS
TOPIC TAGS--THERMAL CONVECTION, HEAT SOURCE, FLOW STRUCTURE, NUMERIC
SOLUTION
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAE--2000/1205 STEP NO--UR/0421/70/000/000/0147/0154
CIRC ACCESSION NO--AP0124859
UNCLASSIFIED

2/2 025

UNCLASSIFIED

PROCESSING DATE--13NOV70

CIRC ACCESSION NO--AP0124859

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. DISCUSSION OF THE TWO DIMENSIONAL PROBLEM OF FREE CONVECTION IN A SQUARE (OR RECTANGULAR) REGION BOUNDED BY SOLID IMPERMEABLE WALLS. CONVECTION IS GENERATED BY NONUNIFORM HEATING FROM ABOVE (IN WHICH CASE THE BASE OF THE REGION, NORMAL TO THE GRAVITATIONAL FIELD, AND BOTH LATERAL SURFACES MUST BE KEPT AT A CONSTANT TEMPERATURE THAT DOES NOT EXCEED THE TEMPERATURE OF THE UPPER BOUNDARY AT ANY POINT). THE LAWS GOVERNING THE CONVECTIVE MOTION AND HEAT TRANSFER DETERMINED ALSO FOR SIMULTANEOUS HEATING FROM ONE SIDE AND FROM ABOVE AND FOR SIMULTANEOUS HEATING FROM ONE SIDE, FROM BELOW, AND FROM ABOVE.

UNCLASSIFIED

USSR

UDC 629.78.015.076.8

BAZHINOV, I. K., IVANOV, N. M., ~~NOGOV, O. A.~~, and YAKOVLEV, O. S.

"Some Adaptive Algorithms of Control of the Descent of Planetary Space Vehicles in the Earth's Atmosphere"

Inform. Materialy. Nauch. Sovet po Kompleks. Probl. (Information Materials of the Scientific Council on Complex Problems), "Kibernetika." AN SSSR, No 6 (53), 1972, pp 38-47 (from Referativnyy Zhurnal, Raketostroyeniye, No 5, 1972, Abstract No 5.41.173, Resume)

Translation: The problem of controlling the descent of a space vehicle entering the Earth's atmosphere at hyperbolic velocities is presently becoming a constantly more urgent one. With an increase of the entry velocity, the solution of the problem of landing of the craft in a given region of the Earth acquires substantial complexity, and there is a corresponding increase in the demands made upon the descent control system. Such a descent control system must be versatile, capable of functioning in various kinds of emergency situations, at any practicable range of descent, at various entry velocities, with random changes of the aerodynamic characteristics of the descending craft within the limits of tolerance, etc. An algorithm for operating such a descent control system is a complex one; it can be brought to realization only with

USSR

BAZHINOV, I. K., Inform. Materialy. Nauch. Sovet po Kompleks. Probl.
"Kibernetika." AN SSSR, No 6 (53), 1972, pp 38-47 (from Referativnyy Zhurnal,
Raketostroyeniye, No 5, 1972, Abstract No 5.41.137, Resume)

the employment of a digital computer aboard the space vehicle. Some types
of algorithms for operating descent control systems of this kind are
examined. 7 references.

2/2

- 4 -

USSR

UDC 621.221 (024) (47+57)

CHISTYAKOV, G. YE., NOGOVITSYN, D. D., YAKUSHEV, M. V.

Gidroenergeticheskiye resursy basseyna reki Yany. (Hydroelectric Power Resources of the Yana River Basin), Moscow, Nauka Press, 1970, 214 pp (from RZh-Elektrotehnika i Energetika, No 2, Feb 71, Abstract No 2 D2 K)

Translation: This book contains a brief physical-geographic description of the Yana River Basin, information on hydrography and the regime of the principal rivers and the potential hydroelectric power reserves of the basin rivers more than 10 km long. In addition, other power resources and the economy of the region are investigated, and some arguments are presented regarding the prospects of development of power consumption and installation of power equipment. There are 13 illustrations, 51 tables and an 83-entry bibliography.

1/1

- 34 -

Information Theory & Pattern Recognition

USSR

TER-ARUTYUNOV, G. M., NOGTIKOV, A. N., ANISIMOV, V. V.

"Device for Input of Information From a Photographic Information Carrier"

Otkrytiya Izobretmeniya Promyshlennyye Obraztsy Tovarnyye Znaki, No 35, 1972,
Patent No 359672

Translation: A device for input of information from a photographic information carrier containing a photosensitive matrix and connected to a convertor which is, in turn, connected to an input register and a pulse generator, differing in that in order to increase the reliability of counting, a marker pulse shaper containing a series-connected differentiating circuit, OR circuit, first Kipp relay, first shaper, second Kipp relay and a second shaper are connected to the input register zero-setting unit, containing a series-connected third Kipp relay and third shaper, a switch connected to the first Kipp relay, a marker pulse shaper unit, and a pulse generator, the output of the second shaper being connected to the interrogation wire, and the marker pulse shaper unit being connected to the inputs of the register.

1/1

USSR

UDC: 681.327.12

TSVETAYEV, K. P. and NOGTIKOV, A. N.

"Device for Counting and Recognizing Symbols"

Moscow, Otkrytiya, Izobreteniya, Promyshlennyye Obraztsy, Tovarnyye Znaki,
No 34, December 1971, p 151

Abstract: This invention contains a radiation source, an information carrier, and a receiver arranged in sequence along the optical axis and connected with a recognition block which, in turn, is connected to a coding and control block. To increase the speed of the device, a diaphragm block is added; it is connected to the recognition block output and placed between the information carrier and receiver. The diaphragm block contains a polarizer of potassium dihydrophosphate crystals and an optically connected analyzer. The recognition block contained switches which are used for selecting symbol groups through logic circuits.

1/1

USSR

NOLEN, L. V.

"ATF: An Intelligent Programming Language"

VKP-2 Tr. 2-y Vses. Konf. po Programnir., 1970, Dokl. in. Uchastnikov
[VKP-2 Works of Second All-Union Conference on Programming, 1970, REports
of Foreign Participants -- Collection of Works], Novosibirsk, 1971, pp 59-
77, (Translated from Referativnyy Zhurnal, Kibernetika, No 2, 1972, Abstract
No 2 V677 by V. Mikheyev).

Translation: The semantics, syntax, properties and capabilities of ATF
(language a tout faire -- the language for any use) are described. Illus-
trative examples are presented.

1/1

USSR

UDC 577.170.49

UPITIS, V., PAKALNE, D., and NOLLENDORFA, A. , Institute of Biology, Academy of Sciences Latvian SSR

"Little Investigated Trace Elements in Chlorella. II. Nickel"

Riga, Izvestiya Akademii Nauk Latvyskoy SSR, No 4 (285), 1971, pp 24-34

Abstract: A laboratory investigation of the effects of trace elements on Chlorella cultures revealed that the presence of nickel in the nutrient medium (0.01-30 mg/ml) exerts no stimulating effects. On the contrary, as the concentration of this trace element rises above 0.5 mg/ml, Chlorella growth is correspondingly suppressed and chemical changes develop in the cells: chlorophyll is partly destroyed, protein concentration decreases, and carbohydrate concentration increases. The toxic effects of nickel can be reduced by: adding the chelating agent Na_2EDTA to the nutrient medium; increasing the concentration of other trace elements; increasing the concentration of zinc (competes with nickel) to 1-5 mg/ml; or increasing the density of the Chlorella suspension.

1/1

USSR

UDC 547.241'183:542.951.9

NIPANT'YEV, E. YE., KODOLOV, V. I., and NONISHNEV, YE. P., Institute of Chemistry, Ural Branch of the Acad. Sc. USSR

"Reaction of Tetraethyldiamides of Alkylphosphorous Acids With Hydroquinone"

Leningrad, Zhurnal Obshchey Khimii, Vol 41 (103), No 2, Feb 71, p 482

Abstract: Depending on the ratios of the starting materials and on the reaction temperature, the distillate collected after completion of the reaction between tetraethylamide of ethylphosphorous acid and hydroquinone may contain diethylamine, triethylamine, ethanol, and amidophosphite.

1/1

- 72 -

USSR

UDC 577.391:575.1:633.11

SEMERDZHIAN, S. P., NOR-AREVYAN, N. G., SAAKYAN, A. G., and GRIGORYAN, Z. D., Scientific Research Institute of Agriculture, Armenian SSR

"The Relationship Between the Radiation Sensitivity of Wheat Seedlings and the Content of Sulfhydryl Compounds in Meristem Cells"

Yerevan, Biologicheskii Zhurnal Armenii, Vol 24, No 3, Mar 71, pp 106-107

Abstract: Two lines of the same variety of wheat (Bezostaya 1) were selected, one with rapidly growing and the other with slowly growing seedling stalks. Two-day old seedlings of both lines, which were genetically identical, were irradiated with gamma-rays in a dose of 300 r. The content of SH groups per 100 mg of stalk meristem cells of seedlings not irradiated was 1.007 and 1.315 micromole for the rapid-growing and the slow-growing line, respectively. Upon irradiation, the growth of stems of the rapid-growing line was depressed to a greater extent than that of stems of the slow-growing line. The number of cells with chromosome aberrations determined in anaphase after irradiation was greater in the stalk meristem of the rapid-growing line than that of the slow-growing line. The results showed that there was a definite correlation between the radiation sensitivity of the seedlings and the content of SH groups in their meristem cells.

1/1

1/3 035 UNCLASSIFIED PROCESSING DATE--27NOV70
TITLE--EXPERIMENT IN THERMAL SOUNDING OF THE ATMOSPHERE FROM SATELLITES
-U-
AUTHOR--(05)-KONDRATYEV, K.YA., NORDBERG, V., POKROVSKIY, O.M., TIMO, EYEV,
YU.M., KHANEL, R.
COUNTRY OF INFO--USSR
SOURCE--MOSCOW, DOKLADY AKADEMII NAUK SSSR, VOL 191, NO 6, 1970, PP
1274-1276
DATE PUBLISHED-----70

SUBJECT AREAS--SPACE TECHNOLOGY, ATMOSPHERIC SCIENCES
TOPIC TAGS--TEMPERATURE, MEASUREMENT, INTEGRAL EQUATION, EARTH RADIATION,
THERMAL RADIATION, SATELLITE DATA ANALYSIS

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRA--3003/0050

STEP NO--UR/0020/70/191/006/1274/1276

CIRC ACCESSION NO--AT0129332

UNCLASSIFIED

PROCESSING DATE--27NOV70

UNCLASSIFIED

2/3 035

CIRC ACCESSION NO--AT0129332

ABSTRACT/EXTRACT--(U) GP-0-

ABSTRACT. THE PROBLEM OF THERMAL SOUNDING OF THE ATMOSPHERE ESSENTIALLY INVOLVES SOLUTION OF A FREDHOLM INTEGRAL EQUATION OF THE FIRST KIND: $\int_0^\pi K(\gamma, p) \Phi(p) dp$. TWO METHODS ARE USED IN THIS STUDY FOR SOLVING INTEGRAL EQUATION (1): THE REGULARIZATION METHOD (A. N. TIKHONOV, DAN, 153, NO 1, 34, 1963) WITH CHOICE OF A QUASI OPTIMUM APPROXIMATION BY A METHOD PROPOSED BY ONE OF THE AUTHORS AND THE M. T. CHAHINE METHOD (J. OPT. SOC. AM., 58, NO 12, 1934, 1968), BASED ON MINIMIZING THE MEAN SQUARE DIFFERENCE BETWEEN THE MEASURED AND THEORETICALLY COMPUTED RADIATION VALUES. IN BOTH METHODS THE INITIAL INFORMATION, THE MAGNITUDE OF OUTGOING RADIATION, AND KERNEL OF THE EQUATION COINCIDED. COMPARISON OF THE TWO METHODS REVEALS A GOOD GENERAL AGREEMENT BETWEEN DIRECT AND INDIRECT TEMPERATURE DETERMINATIONS. HOWEVER, ERRORS IN DETERMINING TEMPERATURE FROM SATELLITE DATA IN SOME CASES ARE CONSIDERABLE, ATTAINING APPROXIMATELY 10 DEGREES NEAR THE 100 MB LEVEL IN INTERPRETATIONS BY THE CHAHINE METHOD AND 8 DEGREES BY THE REGULARIZATION METHOD. THE STANDARD DEVIATIONS FOR BOTH INTERPRETATION METHODS ARE APPROXIMATELY IDENTICAL AND CLOSE TO 3 DEGREES. RELATIVELY LARGE ERRORS IN INDIRECT DETERMINATION OF TEMPERATURE CAN BE ATTRIBUTED TO A NUMBER OF FACTORS: ERRORS IN MEASURING RADIATION, ERRORS IN STIPULATING THE KERNEL OF EQUATION (1), ERRORS IN NUMERICAL SOLUTION OF THE INTEGRAL EQUATION (APPROXIMATION ERRORS, ERRORS IN ROUNDING OFF). THE PRINCIPAL SOURCES OF ERRORS ARE THE FIRST TWO. ERRORS IN STIPULATING THE KERNEL OF EQUATION (1) ARE PARTICULARLY IMPORTANT.

UNCLASSIFIED

3/3 035

UNCLASSIFIED

PROCESSING DATE--27NOV70

CIRC ACCESSION NO--AT0129332

ABSTRACT/EXTRACT--DESPITE A HIGH MEASUREMENT ACCURACY THESE ERRORS CONSIDERABLY LOWER THE ACCURACY IN RECONSTRUCTING THE TEMPERATURE PROFILE. THE SINGLE EXAMPLE CITED IN THIS ARTICLE OF A COMPARISON BETWEEN THE TWO INTERPRETATION METHODS DOES NOT MAKE IT POSSIBLE TO DRAW SERIOUS CONCLUSIONS CONCERNING THE ADVANTAGES OF THE DIFFERENT APPROACHES TO SOLUTION OF THE PROBLEM. HOWEVER, THE REGULARIZATION METHOD MADE POSSIBLE A MORE PRECISE RECONSTRUCTION OF THE TEMPERATURE PROFILE IN THE REGION ABOVE 100 MB AND WAS SOMEWHAT POORER THAN THE CHAHINE METHOD IN THE PRESSURE RANGE FROM 100 TO 500 MB.

FACILITY: LENINGRAD STATE UNIVERSITY.

UNCLASSIFIED

UDC 616.981.25-097.5-02:613.166.9(99)

USSR:

TASHPULATOV, B. YU., NORDVINOVA, N. B., and ROGUNOVA, K. A., Institute of Epidemiology and Microbiology imeni Gamaleya, Academy of Medical Sciences USSR

"Microbiological and Immunological Studies of the Human Organism in Antarctic Conditions. III. Characteristics of Staphylococcus Infection in an Isolated Collective"

Moscow, Zhurnal Mikrobiologii, Epidemiologii i Immunobiologii, No 4, Apr 71, pp. 68-73

Abstract: The Staphylococcus flora of the upper respiratory passages (nose and pharynx) and the skin of 14 participants in the 12th USSR Antarctic Expedition was investigated during 10 mo of isolated sojourn of the participants as a group at the Antarctic station Novolazarevskaya. A bacteriological study was conducted every month. A total of two hundred and fifty Staphylococcus strains were isolated, 81 of which were pathogenic and 169 nonpathogenic. The pathogenic Staphylococci differ in properties (including sensitivity to antibiotics) from those isolated from healthy carriers in Moscow. Their distribution among individuals was also the same. As a rule, pathogenic Staphylococci isolated from any one person were of the same phage type. All 14 persons were constant carriers of nonpathogenic Staphylococci and 10 of them carried in addition pathogenic Staphylococci. Presence of Staphylococci in the pharynx was more

1/2

USSR:

TASHPULATOV, R. YU., et al., Zhurnal Mikrobiologii, Epidemiologii i Immunobiologii, No 4, Apr 71, pp 68-73

frequent than under ordinary conditions. Some of the carriers of pathogenic Staphylococci (one of them developed bilateral hydroadenitis and was evacuated from the station for this reason) transmitted them to other members of the group in the form of a latent infection not accompanied by disease. As shown by a study of the four subjects carrying nonpathogenic Staphylococci only, these Staphylococci were gradually eliminated from the upper respiratory passages during sojourn in the Antarctic.

2/2

- 71 -

Acc. Nr.: AP0040398

Ref. Code: UR0108

USSR

UDC 621.375.4:621.382.3

JPRS 58248

IL'IN, V. A., DIMITRAKI, P. N., ZHURAVLEV, I. G., and NOREKYAN, P. A.

"Experimental Investigation of Semiconductor Diodes Designed for Pulse Bridge Elements"

Moscow, Radiotekhnika, Vol 25, No 1, Jan 70, pp 84-88

Abstract: An experimental investigation of semiconductor diodes intended for pulse bridge elements was carried out, to determine their forward current voltage characteristics and the values of the differential resistance of certain types of diodes. This data is necessary for determining the stability of pulse bridge elements. Two sets (20 each) of diodes of different origin were tested at -60°C , $+25^{\circ}\text{C}$, and $+75^{\circ}\text{C}$ for germanium diodes and at -60°C , $+25^{\circ}\text{C}$, and $+120^{\circ}\text{C}$ for silicon diodes, the technological spread of their parameters was investigated. The results are presented in the form of current voltage and resistance characteristics. The characteristics of the maximum and minimum technological spread and the dependence of the differential resistance of

Reel/Frame

19741847

AP0040398

the diode set at each experimental temperature were plotted on the basis of experimental data. An analysis of the results shows that:
1. The silicon junction pulse diodes are the best suited for pulse bridge elements; 2. The germanium junction diodes can be used successfully in circuits with pulse bridge elements only at average frequencies (1.0-50 KHz), while the use of germanium point-contact diodes is not justified. Original article has ten figures.

19741848

di.

USSR

UDC 621.375.4:621.382.3

IL'IN, V. A., DIMITRAKI, P. N., ZHURAVLEV, I. G., and NOREKYAN, P. A.

"Experimental" Investigation of Semiconductor Diodes Designed for Pulse Bridge Elements

Moscow, Radiotekhnika, Vol 25, No 1, Jan 70, pp 84-88

Abstract: An experimental investigation of semiconductor diodes intended for pulse bridge elements was carried out, to determine their forward current voltage characteristics and the values of the differential resistance of certain types of diodes. This data is necessary for determining the stability of pulse bridge elements. Two sets (20 each) of diodes of different origin were tested at -60°C , $+25^{\circ}\text{C}$, and $+75^{\circ}\text{C}$ for germanium diodes and at -60°C , $+25^{\circ}\text{C}$, and $+120^{\circ}\text{C}$ for silicon diodes, the technological spread of their parameters was investigated. The results are presented in the form of current voltage and resistance characteristics. The characteristics of the maximum and minimum technological spread and the dependence of the differential resistance of the diode set at each experimental temperature were plotted on the basis of experimental data. An analysis of the results shows that:

1. The silicon junction pulse diodes are the best suited for pulse

1/2

USSR

IL'IN, V. A., et al., Moscow, Radiotekhnika, Vol 25, No 1, Jan 70,
pp 84-88

bridge elements; 2. The germanium junction diodes can be used
successfully in circuits with pulse bridge elements only at average
frequencies (1.0-50 KHz), while the use of germanium point-contact
diodes is not justified. Original article has ten figures.

2/2

USSR

SHCHERBAKOV, V. I., SHEVCHENKO, N. A., NORENKO, N. P., and GUMANOV, L. L., Institute of Chemical Physics, Academy of Sciences USSR

"Superinfection Proteins' of Phage T4B of Escherichia coli and the Pleiotropic Effect of the r1 Mutation"

Moscow, Doklady Akademii nauk SSSR, Vol 194, No 1, 1970, pp 208-210

Abstract: An E. coli B culture was infected with phage T4r⁺ or T4r1 and, after 11 min, reinfected with T4r⁺. Samples taken 1 min after the first infection and every 2 min thereafter were transferred to test tubes containing 20 micro C of C¹⁴-hydrolysate of Chlorella protein. After 2 min of incubation, the sample was cooled in dry ice and the suspension precipitated by centrifugation. After certain other procedures, the supernatant was subjected to disk electrophoresis in a polyacrylamide gradient. The time at which the synthesis of most proteins began and ended was the same in both the mutant and the wild phage. However, in the late stages of the latent period, the r1 mutant contained radioactive proteins that were absent in cells infected with the wild phage. After infection of E. coli B under conditions preventing reinfection, or after superinfection during the late stages of the latent period, certain proteins could not be found. These proteins appeared only after repeated infection at the start of the latent period and only

1/2

USSR

SHCHERBAKOV, V. I., et al, Doklady Akademii nauk SSSR, Vol. 194, No 1, 1970, pp 208-210

when the cells were initially infected with the mutant. If the cells were initially infected with the wild phage, the proteins were not revealed by gel electrophoresis, regardless of whether the culture was reinfected. The process of superinfection is considered to be connected with the regulation of protein synthesis in infected cells. The superinfection proteins are apparently directly involved in the retardation of lysis.

2/2

USSR

UDC: None

ANISIMOV, B. V. and NORENKOV, I. P.

"Electronic Circuit Design Using Digital Computers"

Moscow, "Znaniye;" March 1973, 64 pp

Abstract: Three types of problems arising in electronic design that can be handled by digital computers are concerned with systems, circuits, and structures. One of the reasons for the versatility of the digital computer in this regard is its ability to make the transition from analytic methods of solution to numerical methods, and the rapidity of its operation in the latter. In this pamphlet, the authors discuss problems in electron circuit design that lend themselves especially to solution by computers, mathematical models of electron circuits, methods of circuit analysis, optimization of circuitry, designing programs for the computer, and, finally, examples of circuit design solutions effected by the digital computer. The accent of the book is heavily on the practical side. A bibliography of only three titles is given; there are 12 illustrations.

1/1

USSR

UDC 621.382.8.001.24:621.314.33

ANISIMOV, B.V., KAZENNOV, G.G., NORENKOV, I.P.

"Concerning Some Problems Of Mechanical Design Of Integrated Circuits"

V sb. Mikroelektronika (Microelectronics--Collection Of Works), Moscow, Izd-vo
"Sovetskoye Radio," No 4, 1971, pp 249-256

Abstract: In addition to the stage of designing the principal electrical circuits, planning of microcircuits includes a stage for the design of active components and topology. Problems originating at these stages are considered as well as problems of the use of machine methods for their solution. A detailed diagram is shown of the stages and the problems of a system of automatic planning.
1 fig. 15 ref.

1/1

USSR

UDC 612.79.014.482

NORETS, T. A., IL'IN, L. A., and HSAMOV, V. N., Leningrad Scientific Research Institute of Radiation Hygiene, Ministry of Health RSFSR

"Absorbed Doses in the Skin and Changes Therein With Increasing Depth of Contamination by β and β - γ Emitters With Different Energies"

Moscow, Meditsinskaya Radiologiya, No 10, 1971, pp 48-54

Abstract: The purpose of the work was to: (a) calculate the absorbed doses at different depths of the skin created by β emitters with maximum energies (E_0) ranging from 0.16 to 3.0 MeV; (b) trace the relationship between the distribution of absorbed doses and E_0 ; (c) determine the degree of irradiation of various functional and morphological structures of the skin after contamination by β emitters. The levels of absorbed doses in the surface layers of the epidermis and extent of decrease with depth were found to vary with the energy of the β spectrum. The lower the energy, the sharper the decrease in the dose from layer to layer. β emitters with low energy of the β spectrum (i.e., with $E_0 < 0.4$ MeV) affect mainly the layers of epidermis insensitive to radiation. The degree of irradiation of the basal layer varies considerably with the thickness of the epidermis and energy of the spectrum. β emitters

1/2

- 27 -

USSR

NORETS, T. A., et al., Meditsinskaya Radiologiya, No 10, 1971, pp 48-54

with a maximum energy of about 0.5 to 1.5 MeV create high levels of radiation in all layers of the epidermis, the basal layer in particular. They act rather intensively on the functional and morphological structures located in the upper third of the derma, especially the superficial network of blood and lymph capillaries.

2/2

1/2 014 UNCLASSIFIED PROCESSING DATE--13NOV70
TITLE--THE BINDING OF RADIOACTIVE ISOTOPES BY COMPONENTS OF THE SKIN -U-
AUTHOR--(04)-SHVYDKO, N.S., ILIN, L.A., NOREIS, T.A., ANTONOVA, V.A.
COUNTRY OF INFO--USSR
SOURCE--MEDITSINSKAYA RADIOLOGIYA, 1970, VOL 15, NR 6, PP 67-72
DATE PUBLISHED-----70
SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES, NUCLEAR SCIENCE AND
TECHNOLOGY
TOPIC TAGS--RADIOACTIVE ISOTOPE, SKIN PHYSIOLOGY
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRA--3002/1520 STEP NO--UR/0241/70/015/006/0067/0072
CIRC ACCESSION NO--AP0128915
UNCLASSIFIED

2/2 014 UNCLASSIFIED PROCESSING DATE--13NOV70
CIRC ACCESSION NO--AP0128915
ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. INFORMATION WAS OBTAINED WHICH
CHARACTERIZED THE QUANTITATIVE DISTRIBUTION OF RADIOISOTOPES OF
MOLYBDENUM, TELLURIUM, STRONTIUM, BARIUM, YTTRIUM, CERIUM AND
PRASEODYMIUM WITH NEODYMIUM BETWEEN INDIVIDUAL BIOSTRUCTURES OF THE SKIN
AND ITS LAYERS. ON THE BASIS OF THE RESULTS DERIVED THE AUTHORS
CONDUCTED A COMPARATIVE ANALYSIS OF BEHAVIOR OF THESE RADIONUCLIDES IN
THE SKIN. FACILITY: LENINGRADSKIY NAUCHNO ISSLED. INSTITUT
RADIATIONNOY GIGIYENY MZ RSFSR.

UNCLASSIFIED

Acc. Nr: AP0034681

Ref. Code: UR 0241

PRIMARY SOURCE: Meditsinskaya Radiologiya, 1970, Vol 15,
Nr 2, pp 58-64

THE INTERACTION OF Mo^{99} WITH BIOCOMPONENTS OF THE SKIN

Shvydko, N. S.; Il'in, L. A.; Norets, T. A.; Antonova, V. A.

Summary

The paper presents data characterizing the fixation of Mo^{99} by individual biocomponents of the skin, as well as the epidermis, derma and subcutaneous cellular tissue. The authors demonstrate the quantitative distribution of Mo^{99} between fat-soluble, water-soluble and residual fractions of the skin and its layers. The mechanisms of fixation of Mo^{99} by different structures of the tissue are discussed.

D. n.

REEL/FRAME

19711386

02

USSR

UDC 621.3.049.7

~~NOREYKO I. P.~~

"A Method of Inspecting Printed-Circuit Boards"

Moscow, Otkrytiya, izobreteniya, promyshlennyye obraztsy, tovarnyye znaki, No 8, Mar 71, Author's Certificate No 296298, division H, filed 5 Jan 70, published 12 Feb 71, p 2Q1

Translation: This Author's Certificate introduces a method of inspecting printed-circuit boards at individual stages of the technological process of making them. As a distinguishing feature of the patent, labor productivity is increased and manufacturing errors are reduced by using stereoscopic registration of the master board and the one to be inspected.

1/1

USSR

UDC 621.373.826:53

NORINSKIY, L. V.

"Initiation of Directional Electric Breakdown in a Gas by Third Harmonic Radiation of a Neodymium Laser"

V sb. Kvant. elektronika (Quantum Electronics--collection of works), Moscow, No 5, 1971, pp 108-109 (from RZh-Radiotekhnika, No 1, 1972, Abstract No 1D580)

Translation: Observation of optical initiation of directional electric breakdown in the air at atmospheric pressure by a collimated ultraviolet beam with a photon energy of 3.5 electron volts (the third harmonic of the radiation of a neodymium laser) for the first time is reported. The initial plasma concentration and the required power density to observe the effect in the third harmonic of a neodymium laser is estimated. The power density required to observe an analogous effect at wavelengths of 1.06 and 0.53 microns was calculated. On the first wavelength it significantly exceeds the threshold power of optical breakdown, and on the second wavelength it is comparable to it. The experiment confirmed the calculated data (a stabilized efficient source of powerful coherent ultraviolet radiation was used). The bibliography has 2 entries.

1/1

- 93 -

USSR

UDC 669.018.44.669.018.2

KLYPIN, A. A., NOVIK, F. S., and NORISOV., YE. S.

"Study of Correlations Between Mechanical Properties of Some Alloys"

V sb. Povysh. konstruktivn. prochnosti staley i splavov (Increasing the Structural Strength of Steels and Alloys - Collection of Works), No 1, Moscow, 1970, pp 91-94 (from RZh-Metallurgiya, No 3, Mar 71, Abstract No 3I906 by A. Gruzlov)

Translation: A "Minsk-22" computer was used for correlation analysis of the mechanical properties (σ_B , σ_T , σ_W , σ creep, E , δ , ψ , a_H , HB,

σ_{rupt}) of heat-resisting steels and Ni-deformable and casting alloys. The presence of absence of a linear correlation was judged from pair-correlation coefficient values and signs. Correlations are found between most of the indicated properties, including between short-term strength at 20° C and rupture strength at high temperatures. The most important consequence of the presence of a correlation is the possibility of predicting most properties from a certain number of characteristics which are the simplest to determine. Two illustrations. Bibliography with four titles.

1/1

USSR

UDC [621.377.622.25-181.48:621.382.323-416].003.13

SKVORTSOV, A. M., ZARETSKIY, I. L., and NORKIN, L. M.

"Some Economic Problems of Planning, Designing, and Manufacturing Large Integrated Circuits from MOS-Transistors for Storage Devices"

Elektron. tekhnika Nauch.-tekhn. sb. Mikroelektronika (Electronic Engineering. Scientific and Technical Collection. Microelectronics), 1970, vyp. 5 (26), pp 183-185 (from RZh-Avtomatika, Telemekhanika i Vychislitel'naya Tekhnika, No 6, Jun '71, Abstract No 6 B346)

Translation: A comparative estimate of the cost of various types of semiconducting memories is presented. The cost of the circuit as a whole and the specific cost calculated per binary unit are investigated. The results of this estimate are presented for a memory of different capacity made of MOS-transistors and also for devices with a capacity of 1,000 bits executed in the form of large integrated circuits based on single crystals and mosaic integrated circuits using a montage by the inverted crystal method. It is demonstrated that on the modern level of development of technology, the specific cost of mosaic integrated circuits is 35 times less than that of large integrated circuits of the same capacity. There are illustrations and a 5-entry bibliography.

1/1

Acc. Nr: **AP0047365**

Ref. Code: **URc589**

PRIMARY SOURCE: Vestnik Khirurgii imeni I. I. Grekova, 1970,
Vol 104, Nr 1, pp **73-77**

**THE EXPERIENCE WITH 1255 HEMIGASTRECTOMIES ASSOCIATED
WITH VAGOTOMY**

By P. I. Norkunus and E. P. Norkus

In the article etiopathogenesis of ulcerous disease of the stomach and duodenum is explained by venous congestion in the lesser curvature of the stomach. Therefore, hemigastrectomy with vagotomy and devascularization of the lesser curvature of the stomach is recommended in ulcerous disease. The work presents a summary of the authors' experience with this method in 1255 patients during the period from 1945 to 1968. In late postoperative period in 43 of 213 investigated patients (20.18%) the complaints were noted. After histamine gastric juice remained ahydrochloric in 70.66% of cases. Achylia was observed in 22.2%. An average time of evacuation of a contrast matter from the stomach was 20 minutes. Dumping—syndrome was noted in 17.37 per cent of cases, hypoglycemic syndrome—in 13.14 per cent. The results of surgery are as follows: excellent—in 43.19 per cent, good—in 49.30 per cent, satisfactory—in 5.63 per cent and poor—in 1.88 per cent.

111
REEL/FRA

19790891

22h

2

USSR

UDC: 542.611

NORMAN, A., Laboratory of Organic Synthesis, The Sorbonne, Paris

"Hexamethylphosphorus Triamide in Organic Chemistry"

Moscow, Uspekhi Khimii, Vol 39, No 6, 1970, pp 990-1049

Abstract: Of the aprotic dipolar solvents used in chemical reactions, greatest interest has centered on the hexamethyltri- amide of orthophosphoric acid $\text{O-P}(\text{NMe}_2)_3$ (hexamethapol). The author reviews data on physical and chemical properties of the compound and its use as a reaction medium. In outline, the article consists of the following sections:

Physical and Physicochemical Properties

Chemical Properties

Use of Hexamethylphosphorus Triamide as Reaction Medium

--Electron Donor

A. Formation of anions and metalizing

B. Isomerization -- polymerization

C. Uses of anions

D. Comparison of aprotic dipolar solvents

Use of Hexamethylphosphorus Triamides as Reaction Medium -- Electron Acceptor

1/2

USSR

NORMAN, A., Uspekhi Khimii, Vol 39, No 6, 1970, pp 990-1049

- A. Formation of anion-radicals
- B. Uses of anion-radicals
- C. Comparison of electron acceptors
- D. Comparison of aprotic dipolar solvents.

Three of the bibliographic entries are Soviet.

2/2